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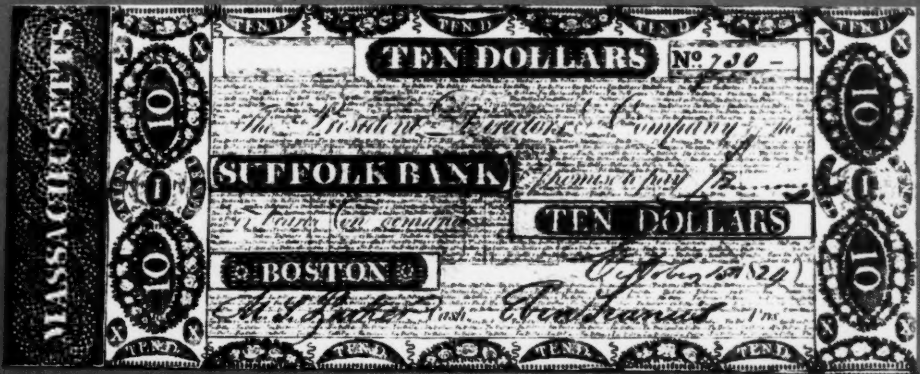

Articles on

- European Capital Markets
- United States as World Banker
- Federal Reserve Discount Policy
- Performance of Common Trust Funds
- Breakeven Analysis in Instalment Lending
- Bank Service Charges in the South
- Competition for Savings Deposits
- Chain Bank Ownership and Operation
- Fiscal-Monetary Mix

- Comment and Rejoinder
- Legal and Regulatory Developments
- Selected Statistical Data
- Book Reviews

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TEN DOLLARS
SUFFOLK BANK
TEN DOLLARS
BOSTON
MASSACHUSETTS
10

ON THE COVER – Demand in the West Indies for shiny new American coins, like those pictured, made it hard to keep them circulating in Antebellum America. For this reason, some foreign coins were designated legal tender in the U.S. until 1857. From 1832 to 1860, notes of state-chartered banks constituted the entire paper circulation, the issue of the great Suffolk Bank of Boston being literally as good as gold.

►IRA O. SCOTT, JR.

European Capital Markets

This study is designed to examine the thesis that the national capital markets of continental Europe—especially those of the European Economic Community (EEC)—are lacking in favorable environmental factors or are less developed than those found elsewhere.[1] To test this thesis, various statistical indicators of capital market traits and characteristics have been assembled for the five main EEC countries. Comparable statistics have also been gathered for three countries noted for the degree of sophistication achieved in their capital market mechanism—Switzerland, the United Kingdom, and the United States. Statistics are presented for only the years 1963 and 1964, since comparable data for all countries for earlier years were not available.

In the case of each indicator, the subject countries have been arrayed in either a quantitatively ascending or descending order.[2] This choice involves qualitative implications. Those countries appearing toward the top of each table are considered to be qualitatively better, either with respect to the provision of a favorable environment for capital market develop-

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[1] A more comprehensive study by the author, *European Capital Markets,* will shortly be published by the Office of the Comptroller of the Currency. It will set forth the statistical and bibliographical sources for the present article.

[2] The tabular material will be found in the Statistical Appendix. When data are presented for two years and a different order appears, that for the first year is chosen. A difference in order rarely occurs, however; and when it does, only a minor shift results. Unless otherwise indicated, statistics are latest figures available at time of printing.

ment, or with regard to the existence, or utilization, of capital generating and export capacity.[3] By this means, it may be seen whether the EEC member countries have comparatively well-developed capital markets.

I. The Stock Market

Available statistics for stock exchange volume have been deflated by the Gross National Product (GNP) to provide a measure of the relative importance and degree of development of organized securities markets in the subject countries. (See Table 1.) Switzerland and the United Kingdom have relatively more important organized markets than do the United States and the EEC countries.

Commission rates—except for Switzerland, which has the lowest rates—on the other hand, are higher in the United Kingdom, and especially high in the United States. (See Table 2.) High commission rates are a hindrance to the use of the organized market, whereas low rates represent a favorable environmental factor.

II. The Role of the Government

Governments may exploit their superior credit ratings and employ other means to preempt the capital market with their own issues. If the proceeds of these issues are used to finance public undertakings, the flow of capital to the private sector may be inhibited. The percentage of new issues accounted for by the public sector is presented in Table 3. Switzerland, the United Kingdom and France head the list, since the public sector is less important in these countries. It must be noted, of course, that there is a value judgement implied by this array, according to which the allocation of capital to the private sector is deemed superior to allocation to the public sector.

The government may also affect the mobility of capital through the exercise of the taxing power. Stock exchange stamp taxes are lowest in the United States, Italy, and Switzerland—highest in the Netherlands. (See Table 4.)

III. Interest Rate Levels

The yield of long-term, fixed-interest obligations of private companies would probably provide the most faithful indicator of capital market conditions, unfettered by official intervention, untrammelled by structural imperfections. Deferring to the difficulties of holding quality constant, however, long-term government obligations were selected as a basis for comparison.[4] Yields have been arrayed in Table 5 in ascending order. This choice of order implies that countries which have low interest rates have, *ceteris paribus*, conducted their affairs so as to provide a saving rate which is high relative to the demand for funds to finance real investment activity and that high interest-rate countries should, on corresponding grounds, adopt measures to increase saving relative to investment demand.[5] Switzerland, the United States, and the Netherlands head the list, with Italy, the United Kingdom and West Germany in last places.

Some marked shifts occur in country positions when short-term interest rates are substituted as a basis for comparison, with Belgium and the United States joining the United Kingdom at the bottom of the list. (See Table 6.)

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[3] There are, of course, qualitative aspects, such as institutional differences, that limit the comparability of the quantities assembled. On the other hand, it is by means of quantification that the qualitative aspects themselves may be endowed with some degree of comparability.

[4] A comparison of corporate bond yields is presented in Table 16a.

[5] The actual, spatial array of interest rates, of course, reflects risk factors and the tax structure, as well as the returns to investment.

Differentials between long- and short-term rates are presented in Table 6a. To some extent, a wider differential may indicate the presence of institutional causes for relatively high interest rates. Given expectations with regard to the level of interest rates and the weighted proportion of investors preferring certainty with respect to capital value as opposed to income, a more narrow differential may reflect a higher order of perfection in a country's system of financial intermediation. It may also reflect a higher degree of competition across the "maturity frontiers"—a more active policy of "interest arbitrage" on the part of capital market participants. For these reasons, lower interest rate differentials have been given the higher ratings. The United States, Belgium, and Switzerland head the list, with France and West Germany coming in last.

Explicit recognition has been given of the fact that the composition of a country's policy mix may have a bearing on interest rate levels in a particular country. Thus, a high discount rate might have been reduced—increasing the country's attractiveness to foreign borrowers—were a tighter fiscal policy enforced. Switzerland, West Germany and Italy rank highest by this measure, with the United Kingdom in last place. (See Table 7.)[6]

Interest rates charged on bank loans tend to be less subject to the forces of competition than is true of open market paper, and are more the outcome of an administered pricing mechanism. However, higher rates may still reflect, to some extent, the existence of structural weaknesses. The United States and Switzerland head such an array of bank loan rates, with West Germany and the United Kingdom having the highest rates. (See Table 7a.)

To the extent that advances and overdrafts are not an important form of commercial bank credit accommodation, the array presented in Table 7a has a limited applicability. Consequently, an array of commercial bank commercial paper discount rates is presented in Table 7b. Some re-ordering occurs; but Tables 7a and 7b remain remarkably similar, despite possible institutional differences among the subject countries.

It has been generally recognized that interest rates may reflect the existence of expectations of inflation on the part of investors. Earlier, in connection with Table 5, it was argued that the existence of higher interest rates is, in some sense, indicative of a country's failure to generate an adequate rate of saving. If, in addition, interest rates are high because of a country's failure to adopt effective anti-inflationary policies, the existence of a high level of interest rates is to be deplored on both counts. Cost-of-living indices are, therefore, presented in Table 8. Thus, the status of the United Kingdom and Italy in Table 5 is reinforced by their positions in Table 8. That is, the high interest rates in these countries may be partly explained by their inflationary experiences.

IV. Capacity To Generate Savings

Per capita GNP appears in Table 9. Lowest incomes are listed first, showing less "ability," and hence less "responsibility." Switzerland and the United States are at the bottom of the list.

Next, savings ratios have been computed for each country (see Table 9a).

---

[6] The student of monetary policy will, of course, recognize the fact that this array is affected by the role of discounting and the degree of central bank credit rationing in the countries involved. Hence, it is generally agreed that Italy underwent a severe liquidity squeeze in 1964, and that Germany is not noted for its flexible fiscal policy.

Those countries with higher ratios are accorded higher ratings, on the ground that they have developed habits of saving, individually and institutionally. Switzerland and West Germany have the highest ratios, the United Kingdom and the United States the lowest.

Similar results attend the array of statistics showing Gross Fixed Investment (GFI) as a percentage of GNP. (See Table 10.)

V. *The Market Mechanism*

A. FINANCING THROUGH SECURITY ISSUES

The relative importance of actual security flotations provides a measure of the degree to which a country has aided and abetted the development of capital market institutions. In Table 10a, net new security issues are shown as a percentage of the GNP. Switzerland, Italy, and Belgium rank high, while the United States, the Netherlands, and the United Kingdom have low rankings.

Net new security issues as a percentage of GFI are presented in Table 10b, with no dramatic shifts in country positions, as compared with those in Table 10a, resulting.

Total outstanding securities as a proportion of the GNP are exhibited in Table 10c.[7] Here, a marked reshuffling of country positions results, as compared with the two preceding distributions. The United Kingdom, the United States, and Belgium now head the list, with West Germany and France at the bottom of the scale.[8]

The size of individual issues may provide an even better measure of the absorptive capacity of a country's capital market—a marginal, as opposed to an average, measure. Accordingly, estimates of individual issue size are cited in Table 10d. Here, the position of the United States is dominant. The potential need for the integration of EEC capital markets is told vividly by these statistics. For integration would greatly multiply the income and institutional dimensions of the demand for securities, and hence increase the marginal absorptive capacity of the market.

Somewhat similar results are obtained by comparing the size of International Bank for Reconstruction and Development (IBRD) and European Investment Bank (EIB) loan flotations in the several countries. (See Tables 10e and 10f.) In both cases, the largest issues were floated in the United States. An interesting comparison may also be made by comparing the size of individual tranches of the 1965 parallel currency loan, although account must be taken of the fact that the flotation was in behalf of the Italian national electricity authority (ENEL). (See Table 10g.)

B. CORPORATE FINANCIAL POLICY

As emphasized earlier, a major factor in determining the importance of a capital market is the method of financing private investment. Thus, the financing of investment internally bypasses the capital market mechanism and dampens its development through inactivity. Table 11 shows a relatively low percentage of internally-financed investment for Switzerland, a relatively high percentage for West Germany, and an intermediate percentage for the United Kingdom and the United States.

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[7] This statistic is probably highly correlated with the degree to which a secondary market in securities has been developed.

[8] A partial explanation of the improved position of the United Kingdom and the United States in Table 10c, as compared with Table 10b, may lie in the long history of an active capital market in these countries. The continental countries, on the other hand, have experienced remarkable growth rates in recent years, and Table 10b reflects this fact.

A somewhat different ordering of the EEC countries themselves results from a comparison of internal financing percentages of a sample of companies. (See Table 12.)

Since some hold the view that high pay-out ratios stimulate investor interest and, presumably, capital market development, an array of such statistics is provided in Table 12a. Italy has a high, and Switzerland and the United Kingdom, a low, rating.

C. Financial Intermediation

Several measures have been employed in an attempt to judge the stage of development of financial intermediation, so crucial a capital market component. First, an indication of the extent to which a country lacks nonbank financial intermediaries, and therefore relies on its banking system as taker of its new issues, is recorded in Table 13.[9] In this regard, it is found that France and Belgium are the least dependent, and Italy and West Germany the most dependent, on their banking systems. Thus, some confirmation is found for the positions of Belgium, Italy and West Germany in Table 6a, which depicted an array of interest-rate differentials.

A further indication of the degree of nonbank financial intermediation may be obtained through an examination of ratios of time to demand deposits. In Table 14, it is shown that West Germany and Switzerland are better developed in this area, the Netherlands and France less so.

The ratio of demand deposits to currency, on the other hand, indicates the importance of banking financial intermediation, as opposed to exclusive reliance upon hand-to-hand currency. Such ratios are presented in Table 14a, where it appears that the United States and the United Kingdom have the higher standings, while France, the Netherlands, and Belgium rely rather heavily upon the currency medium. It should be noted, of course, that the deposit-currency ratio may be influenced by the relative prominence of the giro system in the payments mechanism of continental Europe. Giro deposits are a substitute for demand deposits. On the other hand, funds placed in the giro are usually available directly to finance the central government. Therefore, they do not appear in the market for new issues.

D. Pre-emption by Government

An earlier measure of capital market pre-emption by the government was presented in Table 3, through the percentage of net new issues accounted for by governmental units and agencies. Further insight, but somewhat conflicting evidence, may be found in the figures for the ratio of public to private investment presented in Table 15. The divergence in the results of these two tables is, of course, permitted by the fact that investment need not be financed by security issues.

E. Financing Costs

Financing costs in the subject countries are presented in Table 16. Here, it is shown that these costs are relatively low, reflecting a relatively competitive and well-developed capital market, in the United States, the Netherlands and Switzerland, and relatively high in West Germany, the United Kingdom and Italy.

These costs estimates reflect both interest rate levels and underwriting costs. In Tables 16a and 16b, the two components have been separated. The array of effective interest costs (see Table 16a) follows the expected pattern announced by the previous evidence. Important shifts occur in the ordinal list, however, when noninterest, flotation costs are used as the basis for comparison. (See Table 16b.) Among other changes, Switzerland falls into last place, while the United Kingdom's position improves markedly.

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[9] Heavy reliance upon the banking system as a long-term investor probably accentuates the cyclical pattern of long-term interest rates. As loan demand expands in the upswing, the banks trim their bond portfolios.

Only four of the eight countries under consideration have a stamp tax, the lowest being in Italy, the highest in the Netherlands. (See Table 17.) Four countries have annual stock exchange listing fees, the lowest again being in Italy, the highest in Belgium. (See Table 18.)

VI. *The Balance of Payments and the Adequacy of the Reserve Position*

The balance-of-payments position of the various countries is presented in Table 19, with the most unfavorable positions at the top of the table and the most favorable positions at the bottom. Such an ordering implies that countries with a favorable balance of payments are in a better position to export capital than are those with an unfavorable position. As a result, the United States, Italy and the United Kingdom are in a difficult position, while for the Netherlands, West Germany and France the exportation of capital should be less of a burden.[10]

Net long-term capital exports as a proportion of GNP are recorded in Table 20. Four countries are capital importers and hence qualify negatively according to this measure. Of those that do export capital, the Netherlands rates highest, the United Kingdom lowest.

Finally, a measure of the need for contingency funds is sought in the ratio of net foreign assets to the largest annual loss. (See Table 21.) Neither West Germany nor Switzerland have experienced a decline of net foreign assets in recent years. Among those countries which did experience a recent decline, Italy and the United States are the least well-equipped with reserves. The Netherlands and Belgium are most favorably endowed and, hence, by this measure, they are in the best position to export capital.

VII. *Summary of Comparisons*

A summary of the results of the comparisons is presented in Table 22. Italy may be taken as a basis for explaining the construction of this table. In five instances, Italy is in first place, namely, with respect to per capita GNP (Table 9), parallel loan tranche (Table 10g), percentage of internal financing (Table 12), pay-out ratios (Table 12a), and the ratio of total net foreign assets to the largest annual decline in total net foreign assets (Table 21). On the other hand, Italy ranks last—in eighth place—with respect to flotation costs (Table 16).

A cursory inspection of the record for the other countries reveals that no single country, or group of countries, has uniformly good, or poor, capital markets when rated on a comparative basis according to the criteria which have here been assembled. The implicit weighting system in this summary statement is, of course, one of equal weights.[11] But it would seem difficult to devise a generally accepted set of weights that would result in a definitely superior, or inferior, status for any one county or group of counties.[12] On the contrary, each country displays certain strengths and weaknesses, areas in which relative excellence has been achieved and others in which there are comparatively serious deficiencies. Consequently, the results of this inquiry are not consistent with the thesis that capital markets of continental Europe are comparatively underdeveloped.

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[10] It might be argued that a surplus country which is "doing something about it" should be given a higher rating. For example, the Italian central bank promoted the exportation of capital when confronted by a balance-of-payments surplus. On the other hand, such measures might have been timed so as to prevent the surplus from arising.

[11] Moreover, within each individual comparison, no account is taken of the magnitudes of differences in parameter size.

[12] The reader may, in any event, select his own system of weights.

Statistical Appendix

TABLE 1

Ratio of Stock Exchange Volume to GNP

	Percent	
	1963	**1964**
1. Switzerland	47.43	45.11
2. United Kingdom	n.a.	34.15
3. United States	11.06	11.79
4. Netherlands	3.54	3.13
5. Italy	3.29	2.58
6. Belgium	3.09	2.92
7. France	0.33	0.26
8. West Germany	n.a.	n.a.

TABLE 2

Stock Exchange Commission Rates and Specialists Fees on a $1,000 Transaction Consisting of 100 Shares with Par and Market Values of $10.00 Each

	Percent
1. Switzerland	0.15
2. Netherlands	0.66
3. France	0.70
4. Italy	0.70
5. Belgium	0.75
6. Germany	0.87
7. United Kingdom	1.25
8. United States	1.70

TABLE 3

Percent of Net New Security Issues Accounted for by the Public Authorities, Special Credit Institutes, and Other Government Controlled Companies and Agencies

	1963	1964
1. Switzerland	8.5	14.7
2. United Kingdom	22.2	16.2
3. France	51.5	47.2
4. West Germany	59.2	52.3
5. United States	59.7	52.2
6. Belgium	63.3	62.7
7. Italy	65.9	70.7
8. Netherlands	69.7	41.2

TABLE 4

Stock Exchange Stamp Tax on a Cash Transaction by Regular Brokers in the National Currency Equivalent of a Domestic Industrial Bond with a Par and Market Value of $1,000

	Percent
1. United States	none
2. Italy	0.006
3. Switzerland	0.04
4. West Germany	0.25
5. France	0.30
6. Belgium	0.375
7. United Kingdom	1.00
8. Netherlands	1.224

TABLE 5

Yields of Long-Term Government Securities [1]

	Percent	
	1963	**1964**
1. Switzerland	3.14	3.15
2. United States	4.15	4.14
3. Netherlands	4.30	5.00
4. France	4.89	5.07
5. Belgium	5.44	5.66
6. Italy	5.62	5.62
7. United Kingdom	5.78	6.41
8. West Germany	6.00	6.40

[1] Cf., the array of private bonds yields is presented in Table 16a.

TABLE 6

Yields of One-Year Government Securities

	Percent	
	1963	**1964**
1. Switzerland	1.410	1.810
2. Netherlands	2.130	3.730
3. France	2.500	2.500
4. West Germany	3.125	3.125
5. Italy	3.590	3.630
6. United States	3.690	3.960
7. United Kingdom	3.760	6.740
8. Belgium	4.750	5.650

TABLE 6a

Differential Between Long- and Short-Term Interest Rates

	Percent 1963	 1964
1. United States	0.460	0.180
2. Belgium	0.690	0.010
3. Switzerland	1.730	1.340
4. United Kingdom	2.020	−0.330
5. Italy	2.030	1.990
6. Netherlands	2.170	1.270
7. France	2.390	2.570
8. West Germany	2.875	3.275

TABLE 7

Central Bank Discount Rates on December 31, 1964

	Percent
1. Switzerland	2.50
2. West Germany	3.00
3. Italy	3.50
4. France	4.00
5. United States	4.00
6. Netherlands	4.50
7. Belgium	4.75
8. United Kingdom	7.00

TABLE 7a

Interest Rates Charged by Banks on Prime Quality, Collateralized Advances or Overdrafts, Toward the End of 1964

	Percent
1. United States	4.500
2. Switzerland	4.625
3. France	5.750
4. Italy	6.500
5. Netherlands	6.500
6. Belgium	7.250
7. West Germany	7.500
8. United Kingdom	8.000

TABLE 7b

Discount Rates Charged by Banks on Prime Quality, Short-Term Commercial Paper, toward the End of 1964

	Percent
1. Switzerland	3.00
2. France	4.15
3. United States	4.17
4. Italy	5.00
5. West Germany	5.00
6. Belgium	5.50
7. Netherlands	6.25
8. United Kingdom	7.75

TABLE 8

Cost-of-Living Indices (1958 = 100)

	1963	1964
1. United States	106	107
2. Belgium	106	111
3. West Germany	111	114
4. Switzerland	111	114
5. United Kingdom	112	115
6. Netherlands	113	119
7. Italy	117	124
8. France	125	130

TABLE 9

Per Capita GNP (U. S. dollars)

	1963	1964
1. Italy	932	1,010
2. Netherlands	1,199	1,390
3. Belgium	1,500	1,630
4. United Kingdom	1,565	1,700
5. West Germany	1,634	1,780
6. France	1,671	1,820
7. Switzerland	2,024	2,190
8. United States	3,090	3,330

TABLE 9a

Domestic Saving as a Proportion of GNP

	1963	1964
1. Switzerland	.29	.29
2. West Germany	.27	.29
3. Netherlands	.25	.27
4. Italy	.23	.23
5. France	.22	.23
6. Belgium	.19	.21
7. United Kingdom	.18	.19
8. United States	.18	.19

TABLE 10

GFI as a Percentage of GNP

	Percent	
	1963	1964
1. West Germany	31.0	26.2
2. Switzerland	28.6	29.5
3. Netherlands	23.6	25.1
4. Italy	23.7	21.7
5. France	20.0	20.9
6. Belgium	19.4	20.1
7. United States	16.6	16.8
8. United Kingdom	16.1	17.6

TABLE 10a

Net New Security Issues as a Percentage of GNP

	Percent	
	1963	1964
1. Switzerland	8.7	8.2
2. Italy	4.9	6.1
3. Belgium	3.9	4.9
4. West Germany	3.6	4.0
5. France	3.0	2.7
6. United States	2.7	2.9
7. Netherlands	2.1	1.8
8. United Kingdom	1.4	1.7

TABLE 10b

Net New Security Issues as a Percentage of GFI

	Percent	
	1963	1964
1. Switzerland	30.48	27.82
2. Italy	20.8	27.8
3. Belgium	20.3	24.5
4. United States	16.0	17.0
5. France	15.2	12.8
6. West Germany	14.2	15.4
7. Netherlands	8.8	7.1
8. United Kingdom	8.5	9.6

TABLE 10c

Outstanding Securities as a Proportion of GNP

	Percent	
	1963	1964
1. United Kingdom	2.06	2.39
2. United States	1.60	1.64
3. Belgium	1.19	1.14
4. Netherlands	1.01	0.94
5. Switzerland	0.82	0.83
6. Italy	0.77	0.66
7. West Germany	0.74	0.77
8. France	0.42	0.39

TABLE 10d

Estimated U. S. Dollar Equivalent of the Typical Size of Company Bond Flotations

(Millions of U. S. dollars)

1. United States	50
2. Italy	30
3. United Kingdom	30
4. West Germany	15
5. France	10
6. Switzerland	7.5
7. Belgium	5
8. Netherlands	5

TABLE 10e

U. S. Dollar Equivalent of Largest Bond Flotation by the International Bank for Reconstruction and Development

(Millions of U.S. dollars)

1. United States	200.0
2. West Germany	125.0
3. Switzerland	46.3
4. United Kingdom	28.0
5. Italy	24.0
6. Netherlands	13.8
7. Belgium	10.0
8. France	none

TABLE 10f

U. S. Dollar Equivalent of Largest Bond Flotation by the European Investment Bank

(Millions of U. S. dollars)

1. United States	25.0
2. Italy	24.0
3. West Germany	20.0
4. Netherlands	13.8
5. France	12.2
6. Belgium	10.0
7. Switzerland	2.1
8. United Kingdom	none

TABLE 10g

U. S. Dollar Equivalent of Tranches of the 1965 Parallel Currency Loan for ENEL

(Millions of U. S. dollars)

1. Italy	160.0
2. France	25.0
3. West Germany	25.0
4. Netherlands	7.0
5. Belgium	2.0
6. Switzerland	none
7. United Kingdom	none
8. United States	none

TABLE 11

Percentage of Private Investment Financed Internally

	Percent	
	1963	1964
1. Switzerland	47.0	45.5
2. Belgium	52.4	62.3
3. Netherlands	54.1	55.6
4. United Kingdom	55.9	52.6
5. United States	58.9	63.2
6. France	65.5	65.7
7. Italy	68.6	37.1
8. West Germany	69.9	66.9

TABLE 12

Percentage of Total Financing from Internal Sources for Selected EEC Companies, 1959-1962

	Percent
1. Italy	39.6
2. France	55.0
3. Belgium	56.4
4. West Germany	71.8
5. Netherlands	76.5
6. Switzerland	n.a.
7. United Kingdom	n.a.
8. United States	n.a.

TABLE 12a

Pay-Out Ratios in 1964

	Percent
1. Italy	86
2. Belgium	79
3. France	75
4. West Germany	50
5. Netherlands	45
6. United States	45
7. Switzerland	33
8. United Kingdom	33

TABLE 13

Percentage of Net New Security Issues Taken by Banks for Own Account

	1963	1964
1. France	4.1	3.5
2. Belgium	5.2	6.2
3. Netherlands	6.9	8.6
4. United States	16.4	17.6
5. Italy	22.3	31.9
6. West Germany	28.2	31.8
7. Switzerland	n.a.	n.a.
8. United Kingdom	n.a.	n.a.

TABLE 14a

Ratio of Demand Deposits to Currency Outside Banks

	1963	1964
1. United States	3.82	3.68
2. United Kingdom	2.39	2.25
3. Italy	2.11	2.12
4. West Germany	1.44	1.42
5. Switzerland	1.41	1.39
6. France	1.25	1.28
7. Netherlands	1.22	1.15
8. Belgium	0.53	0.55

TABLE 14

Ratio of Time to Demand Deposits

	1963	1964
1. West Germany	2.43	2.60
2. Switzerland	1.96	2.01
3. United Kingdom	1.45	1.66
4. Italy	1.13	1.15
5. United States	0.86	0.93
6. Belgium	0.82	0.81
7. Netherlands	0.69	0.75
8. France	0.20	0.22

TABLE 15

Ratio of Public to Private Investment

	1963	1964
1. Belgium	.15	.17
2. United States	.22	.22
3. West Germany	.37	.36
4. Italy	.39	.40
5. Switzerland	.40	.42
6. Netherlands	.49	.56
7. France	.59	.58
8. United Kingdom	.78	.81

TABLE 16

Estimated Costs Incurred in the Flotation of a 15-Year, Domestic Industrial Bond, First Quarter of 1965 (Percent)

	Initial costs and deductions	Annual costs	Annual costs as a percentage of borrowed funds	Coupon	Coupon as a percentage of borrowed funds	Total coupon and annual costs as a percentage of borrowed funds
1. United States	1.14	0.10	0.10	4.50	4.55	4.65
2. Netherlands	3.85	—	—	5.00	5.20	5.20
3. Switzerland	3.34	0.05	0.05	5.25	5.43	5.48
4. France	5.99	1.08	1.15	5.00	5.32	6.47
5. Belgium	3.50	0.10	0.10	6.25	6.48	6.58
6. West Germany	8.05	0.24	0.26	6.00	6.52	6.78
7. United Kingdom	2.73	0.03	0.03	6.75	6.94	6.97
8. Italy	12.00	2.48	2.82	6.00	6.82	9.64

TABLE 16a

Estimated Effective Rates of Interest Paid on a 15-Year, Domestic Industrial Bond, during the First Quarter of 1965

	Percent
1. United States	4.50
2. Netherlands	5.00
3. France	5.09
4. Switzerland	5.25
5. West Germany	6.42
6. Belgium	6.25
7. Italy	6.81
8. United Kingdom	6.92

TABLE 16b

Estimated Cost, other than Interest, Incurred in the Flotation of a 15-Year, Domestic Industrial Bond, during the First Quarter of 1965 (Percent)

	Initial underwriting cost other than discounts from par, on an annual basis	Annual costs associated with the outstanding debt	Total cost
1. Netherlands	0.26	—	0.26
2. Belgium	0.23	0.10	0.33
3. West Germany	0.27	0.24	0.51
4. United Kingdom	1.23	0.03	1.26
5. France	0.39	1.08	1.47
6. United States	1.14	0.10	1.57
7. Italy	0.30	2.48	2.78
8. Switzerland	3.34	0.05	3.39

TABLE 17

Stamp Tax on the National Currency Equivalent of a Domestic Industrial Bond with a Par and Market Value of $1,000

	Percent
1. Belgium	none
2. France	none
3. United States	none
4. West Germany	none
5. Italy	.14
6. United Kingdom	.25
7. Switzerland	.60
8. Netherlands	0.75

TABLE 18

Annual Stock Exchange Listing Fee for Domestic Industrial Bonds Issued at Par with an Equivalent Value of $5 Million

	Percent
1. France	none
2. West Germany	none
3. Netherlands	none
4. United Kingdom	none
5. Switzerland	.001
6. Italy	.005
7. United States	.012
8. Belgium	.036

TABLE 19

Balance of Payments (Billions of U. S. dollars)

	1963	1964
1. United States	−2.007	−1.208
2. Italy	−1.252	.774
3. United Kingdom	− .350	−2.020
4. Belgium-Luxembourg	.002	.212
5. Netherlands	.139	.059
6. West Germany	.467	− .009
7. France	.654	.796
8. Switzerland	n.a.	n.a.

TABLE 20

Net Long-Term Capital Exports as a Proportion of GNP

	Percent	
	1963	1964
1. Netherlands	.011	.065
2. United States	.009	.009
3. Italy	.007	.005
4. United Kingdom	.005	.011
5. France	−.001	−.005
6. West Germany	−.005	.002
7. Belgium-Luxembourg	−.005	−.012
8. Switzerland	−.048	−.039

TABLE 21

Ratio of Total Net Foreign Assets to Largest Annual Decline in Total Net Foreign Assets, During the Recent Period

	1963	1964
1. Italy	2.22	2.84
2. United States	2.51	1.94
3. France	5.27	5.92
4. United Kingdom	5.53	6.16
5. Netherlands	9.20	9.31
6. Belgium	39.45	44.00
7. Switzerland	No decline experienced	No decline experienced
8. West Germany	No decline experienced	No decline experienced

TABLE 22

Summary of Rankings Appearing in Tables 1-21

Ranking	Belgium	France	Italy	Netherlands	Switzerland	United Kingdom	United States	West Germany
No fee or tax	17	17, 18		18		18	4, 17	17, 18
1	15, 8	13	9, 10g, 12, 12a, 21	16b, 20	1, 2, 3, 5, 6, 7, 7a, 7b, 9a, 10a, 10b, 11	10c	6a, 7a, 8, 10d, 10e, 10f, 14a, 16, 16a, 19	10, 14
2	6a, 11, 12a, 13, 16b	7b, 12, 10g	4, 10a, 10b, 10d, 10f, 19	2, 6, 9, 16, 16a	10, 14	1, 3, 14a, 10d	5, 10c, 15, 20, 21	7, 9a, 10e, 10g
3	9, 10a, 10b, 10c, 12	2, 3, 6, 7a, 12a, 16a, 21	2, 7, 14a, 20	5, 9a, 10 11, 13	4, 6a, 8, 10e, 16	14, 19	1, 7b	8, 10f, 15, 16d
4	19	5, 7, 16	7a, 7b, 9a, 10, 14, 15	1, 7a, 10c, 10f, 10g	16a	6a, 9, 10e, 11, 16b, 20, 21	7, 10b, 13	3, 4, 6, 7b, 10a, 10d, 12, 12a, 14a
5	2, 5, 10g, 16	4, 9a, 10, 10a, 10b, 10d, 10f, 16b, 20	1, 6, 6a, 10e, 13, 17	12, 12a, 19, 21	10c, 14a, 15, 18	8	3, 11, 12a, 14	9, 16a
6	1, 3, 4, 7a, 7b, 9a, 10, 10f, 14, 16a, 21, 20	9, 11, 14a	5, 10c, 18	6a, 7, 8, 10e, 15	10d	17	6, 10a, 16b	2, 10b, 13 16, 19, 20
7	7, 10d, 10e	1, 6a, 15, 19	3, 8,11, 16a, 16b	7b, 10a, 10b, 10d, 10f, 14, 14a	9, 12a, 17	2, 4, 5, 6, 9a, 12a, 16	9a, 10, 18	7a, 10c
8	6, 14a, 18	8, 10c, 14	16	3, 4, 17	16b, 20	7, 7a, 7b, 10, 10a, 10b, 15, 16a	2, 9	5, 6a, 11
No issue		10e			10g	10f, 10g	10g	
No decline					21			21
Not available					12, 13, 19	12, 13	12	1

Source: Tables 1 - 21 provide the basis for this matrix of rankings. "No fee or tax" is placed at the top of the table, because no fee or tax is better than some fee or tax. Countries having the same statistic—and placed in alphabetical order in the preceeding tables—are here all awarded the highest rank attained by the group.

► RAYMOND F. MIKESELL

United States as World Banker

If a country is to function as world banker and its currency is to serve as a reserve currency, it must observe certain limitations in the measures which it applies in balance-of-payments adjustments. The recent Report of the OECD Economic Policy Committee on *The Balance of Payments Adjustment Process* fails to distinguish between the responsibilities and policy measures appropriate for a reserve currency country and those applicable to other countries.[1] In discussing the special obligations of a reserve currency country, whether it is in overall surplus or deficit, I will be concerned mainly with the United States as the primary reserve currency country.[2]

I will assume, initially, the present international financial structure in which the dollar and gold are the principal reserve assets. Later, I will discuss briefly the case in which a special reserve asset is created for holding official reserves. If the United States seeks to sustain this role for the dollar, it must:

(1) Maintain the convertibility of official foreign monetary holdings of dollars into gold at a fixed rate (or within the limits established by the IMF) so long as the United States possesses a reasonably adequate stock of monetary gold.

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[1] *The Balance of Payments Adjustment Process,* A Report by Working Party No. 3 of the Economic Policy Committee of the OECD, OECD, August 1966.

[2] Unless otherwise specified, I shall use the official settlements concept of overall surplus or deficit.

(2) Maintain freedom of exchange transactions and avoid controls which would interfere with the operation of the international capital market in a manner essential to the functioning of the United States as world banker.

(3) Maintain reasonable price stability and a strong economy, including both a high level of employment and a relatively high rate of growth in productivity.

(4) Maintain, over time, a strong current account position without the use of import restrictions or direct export subsidies which interfere with progress toward freer world trade.

(5) Pursue the objectives in (3) and (4) by means of a mix of monetary, fiscal, and other policy instruments, determined with due regard for international economic stability and growth.

The fundamental purposes of these measures are: (1) To maintain a domestic environment appropriate to the role of world banker; and (2) to maintain international confidence in the dollar as the preferred currency for holding private and official international liquidity and for conducting international business. It will be observed that neither balance-of-payments equilibrium nor any particular level of surplus or deficit are among the goals cited. It may also be noted that, except for the Interest Equalization Tax and the Voluntary Capital Controls, the United States has, by and large, lived up to these criteria. In spite of many statements about the weakness of the dollar, it remains as the preferred currency for holding international reserves and for conducting international transactions, including the flotation of international securities marketed outside the United States.

The U.S. world banking functions are carried out by its financial and nonfinancial institutions engaged in international transactions, and through its well-developed capital market which is integrated with markets and financial institutions throughout the world. In many ways, this broader banking role is more important than the function of providing an official reserve currency, since the latter could presumably be furnished by transferable deposits in an institution such as the IMF. However, it is important to distinguish between the dollar as an official reserve medium, and the creation of international dollar liquidity which is intimately bound up with the functions of world banker.[3]

The maintenance of convertibility of the dollar with gold at a fixed price is founded on both the continuation of the present international gold exchange standard system and the importance of exchange rate stability for a reserve currency country. In the event of an attempted devaluation, most, if not all, of the world's currencies would move with the dollar in relation to gold. The British devaluation of September 1949, was accompanied by a broad adjustment of nondollar currencies, signalling a general devaluation against the dollar. But if the dollar were devalued, it would mean little more than a rise in the price of gold.[4] Most nonreserve-currency countries could change the value of their currency vis-a-vis the rest of the world without bringing about a general realignment of currency values.[5] It should also be observed that a change in the gold value of a reserve currency alters the volume and distribution of international liquidity, although this is not true in the case of a nonreserve-currency country. Thus, for example, a devaluation of the dollar vis-a-vis the rest of the world would *reduce* the volume of international liquidity when measured in terms of the domestic currencies of the rest of the world, and *increase* the volume when measured in terms of the dollar. On the other hand, an upward revaluation of the dollar (that is, a reduction in the dollar price of gold) would *increase* the volume of international liquidity in terms of the domestic currencies of other countries, but *reduce* the volume of international liquidity when measured in terms of the dollar. A change in the gold value of the dollar would affect the distribution of international liquidity, depending upon whether the countries held their reserves in gold or dollars. These changes would inevitably be disruptive to the international financial system and to domestic monetary systems as well.

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[3] The importance of the U.S. capital market in exporting long-term capital while providing foreign savers with liquid dollar assets, has been stressed by Charles P. Kindleberger in *Balance of Payments Deficits and the International Market For Liquidity*, Essays in International Finance, No. 46, Princeton University, May 1965; See also Emile Despres, C. P. Kindleberger, and W. S. Salant, "The Dollar and World Liquidity," *Economist* (London), February 5, 1966. (Reprinted by The Brookings Institution, Washington, D. C., April 1966).

[4] "Any attempt to devalue the dollar by writing up the price of gold would assuredly be matched, within hours, by comparable and offsetting action on the part of virtually every country. The United States would be foreclosed by its size . . . from unilateral devaluation." R. V. Roosa, *Monetary Reform for the World Economy*, New York: Council on Foreign Relations and Harper and Row, 1965, p. 18.

Even if the United States were unable to maintain gold convertibility because of the rate at which other countries exercised their option to hold gold instead of dollars, the United States could still function as world banker or reserve currency country. Undoubtedly, most countries would tie their currencies to the dollar, so that the world would be on a dollar standard rather than on an international gold exchange standard. Just what would happen to the dollar value of gold if the United States ceased to buy or sell gold at a fixed price (or to buy gold at any price) is difficult to forecast. Much would depend upon the speculative reaction of the world to a situation in which there was no longer any assurance that one thirty-fifth of an ounce of gold would buy a dollar, and upon the gold buying policies of the monetary authorities of other countries. Abba Lerner and Emile Despres believe that if the United States ceased to buy gold and, in addition, sold much of our remaining gold stock on the world market, the price of gold would fall, and gold could be wholly or partially demonetized.[6] Robert Roosa, on the other hand, is convinced "that the United States is no longer in a position to accomplish a lowering of the price of gold by unilateral action."[7]

My own view is that, in the longer run, the United States could undermine confidence in gold, provided that an announced policy of no additional gold purchases could be made credible. Once confidence in gold was shaken, a handful of European surplus countries would be put in the position of having to absorb enormous quantities of gold in order to support its price in terms of their own gold parities. If the exchange value of the dollar declined following a U.S. departure from gold, many if not all Western European countries would be likely to depreciate their currencies in terms of gold in order to avoid appreciation in terms of the dollar. This would mean that they would need to pay larger amounts of their own currencies in order to support the price of gold at their new gold parities. Meanwhile, much of the rest of the world would probably go on a dollar standard, holding their reserves in dollars. It is questionable how long a handful of continental Western European countries would be willing to support the price of an asset whose value depends upon universal acceptance.

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[5] A change in the par value of a major EEC country is also likely to result in a general adjustment of EEC parities, and in the case of a general devaluation of EEC currencies, there would undoubtedly be realignment of a number of currencies of countries having close trade relations with the EEC.

[6] See Abba P. Lerner, "Let's Get Rid of Our Cross of Gold," *Challenge*, April 1964, pp. 22-24. Emile Despres's views are contained in a statement published in *Guidelines for International Monetary Reforms, Part II (Supplement)*, Hearings before the Subcommittee on International Exchange and Payments of the Joint Economic Committee, Eighty-ninth Congress, First Session, pp. 548-561.

[7] See R. V. Roosa, *Monetary Reform for the World Economy, op. cit.*, p. 21.

Consideration (2) is essential if the United States is to function as world banker. Exchange controls, capital export taxes or voluntary capital controls do not merely affect capital exports; they also affect the essential financial intermediary role. For example, U.S. banks may accept demand and time deposits from abroad, but the IET and the Voluntary Capital Controls affect the employment of the same funds for long-term capital exports. To a degree, this function is currently carried on through the Eurodollar market, and by the operations of U.S. investment banking institutions in floating securities not available for purchase by U.S. residents except by payment of the interest equalization tax.

Considerations (3) and (4) are essential if the dollar is to be maintained as the preferred currency for holding international liquidity. They constitute the foundation for the basic long-term strength of the dollar, as contrasted with speculative movements into gold. In the longer run, this fundamental strength, coupled with free financial markets and a highly-developed financial structure capable of meeting a variety of requirements of the international financial community, are more important than convertibility into gold. Given these conditions, the dollar could continue to function as an international currency in the absence of gold convertibility; but, without these conditions, the dollar could not remain an international currency even if U.S. gold reserves were double its international obligations.

Consideration (4), to maintain a strong current account balance, is a long-run condition for the strength of the dollar. In maintaining a strong current account balance, the United States should avoid trading practices which impede progress toward freer world trade.

Consideration (5) suggests that, in pursuing considerations (3) and (4), recognition should be given to both domestic and international conditions. For example, in periods of recession coupled with large capital outflows, fiscal deficits and tax credits for domestic investment may provide better means of achieving domestic expansion than would interest rates which are low relative to those abroad. In other circumstances, fiscal surpluses, rather than heavy reliance on high interest rates, may at times contribute to international stability. It should be noted that this consideration relates not to the state of the U.S. balance of payments alone, but also to the orderly functioning of the international financial system. Thus, for example, competition for international capital by means of a continual escalation of interest rates may provide little improvement in the U.S. balance of payments, but may well add to the problems of other important financial centers.

How do these considerations relate to the adjustment process in the event of a continual U.S. deficit or surplus? Unless offset by a shift of liquidity asset holdings between gold and the dollar, a U.S. deficit tends to expand international reserves and a surplus tends to reduce them. Deflationary actions and reduced capital exports by the United States would impair the ability of the deficit countries to adjust their balance without reducing output. If Herbert Grubel is correct in his conclusion that the United States, in performing its world banker role, has been paying a substantial cost in terms of lost output—some unspecified portion of the calculated $40 billion output gap in 1962—this country has been rendering a disservice both to its own citizens and to the world at large.[8]

But if the United States does not succeed in adjusting its balance-of-payments deficit, what should the surplus countries do? Should they be expected to inflate their economies, or to accumulate unwanted international reserves as a contribution to maintaining the present international monetary system? If they are to participate in sustaining an orderly international financial system, they will have to cooperate in freeing international trade and in removing restrictions on capital exports. Some large surplus countries, including France, have continued to maintain capital export controls. Important surplus countries also can cooperate by maintaining a mix of monetary and fiscal policies which will discourage large capital imports. Finally, all of the major reserve holding countries can help by not holding an undue proportion of their official reserves in the form of gold.

If a country, despite these measures, still has a chronic surplus which it wants to avoid, it has the option of currency appreciation. It also has the option of controlling capital imports, but interference with international financial markets constitutes a less desirable means of dealing with imbalances. There are, of course, certain costs associated with appreciation, but appreciation on the part of a few reluctant surplus countries concerned with avoiding inflation is easier than having the United States, together with most of the rest of the world, depreciate vis-a-vis the surplus countries. Depreciation must be accompanied by fiscal and monetary measures carefully applied to avoid inflation, but some rise in the general level of prices and costs is inevitable since it is virtually impossible to balance the increase in prices of international goods with decreases in prices of domestic goods. Thus, given the upward bias of prices in most countries, currency appreciation creates less difficult problems of adjustment than does depreciation. It may also be noted that a devaluation by the United States and the rest of the world vis-a-vis a few surplus countries, would *increase* the volume of world liquidity in terms of the dollar and of all other devaluing currencies. This, in itself, could be inflationary, and would be in conflict with the position of surplus countries who at present are arguing that there is too much international liquidity. Thus, an exchange rate adjustment by the surplus countries would achieve the price level adjustments necessary for equilibrium without a significant change in the average real value of external reserves in the world as a whole.[9]

This leads to the problem of the volume and composition of international monetary reserves, about which so much has been written. The United States cannot by itself be responsible for the volume of official reserves. It cannot undertake to maintain a deficit which just corresponds to the annual increments of international liquidity that the world requires, no matter how that amount may be determined. There appears now to be nearly universal agreement that the volume of official international reserves should not depend upon the vagaries of the U.S. deficit, although there is by no means agreement on the question of whether the United States should run a continuous deficit, or of how much. The maintenance of a proper volume of official reserves should be a matter for determination through international cooperative action, as is also true of the composition of such reserves. Furthermore, the United States cannot be responsible for maintaining convertibility of the dollar into gold at a fixed price, so long as monetary authorities are free to exercise the option of holding gold or dollars. This, too, is a matter for cooperative international action, and there has been no dearth of suggested plans for dealing with it.

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[8] Herbert G. Grubel, "The Benefits and Costs of Being the World Banker," *The National Banking Review*, 2, December 1964, pp. 189-212.

[9] This point has been made by Robert A. Mundell in "The Proper Division of the Burden of International Adjustment," *The National Banking Review*, 3, September 1965, pp. 81-87.

Although the problem of the volume and composition of world reserves is closely related to that of balance-of-payment adjustment, the two are not the same, and no scheme for holding and manipulating the volume of official reserves can operate without a satisfactory solution of the adjustment problem. Moreover, any plan for monetary reform should be compatible with the proper functioning of the United States as world banker.

The holding of official reserves in the form of liquid dollar assets is not essential to the role of the United States as world banker. Official reserves can be held as deposits with the IMF, in Composite Reserve Units (CRUs), or in such other ways as may be established by international agreement. Whatever international reserve plan is agreed upon, the dollar would continue to serve as the major form of private international liquidity, and as the principal international payments medium. Behind the facade of artificially created reserve units, indeed behind gold itself, the dollar will stand as the international standard of value. For any monetary reform plan to succeed, therefore, the dollar must be convertible at a fixed price into whatever official reserve assets may be established by monetary authorities, just as it is convertible into gold today.

If the primary international transactions and private liquidity medium were not convertible at a fixed price into the official reserve medium via the monetary authorities, confidence in one or the other would be impaired, and speculative movements between the two media would create instability in the volume of both. Moreover, the function of official reserves is to provide a store of purchasing power which is stable in terms of the principal payments medium in international markets. Hence, the five basic considerations we have set forth relating to the United States as world banker, would remain even if the dollar were replaced or supplemented by other types of official reserve assets.

Based upon these considerations, it may be said that the United States should not agree to any international monetary reform scheme which would impair its ability to increase private dollar liabilities of foreigners in the functioning of its financial markets and institutions, and in its operations as an international financial intermediary. For example, an international monetary system which failed to establish appropriate obligations on surplus countries, and which restricted the volume of official reserves to a degree which required the United States to impose controls on its international financial transactions, would be no better, and conceivably worse, than the gold exchange standard in operation today. If an international monetary system consistent with the functioning of the United States as world banker cannot be agreed upon, the second best alternative would be for this country to break the fixed tie with gold, in which case much of the world would go on a dollar standard. The world can get along without gold, but a modern international economy cannot operate without a world currency and banker.

RICHARD WEST

The Recent Change in Federal Reserve Discount Policy

As recently as December 1965, it was possible for Professors David Lapkin and Ralph Pfouts to argue that "the (Federal Reserve) discount window is administered independently of monetary policy, and that at each Reserve Bank the window ordinarily remains open to the same extent whether times are good or bad, and whether money is tight or easy." [1] In defense of this argument, Lapkin and Pfouts cited evidence, gathered by Professor C. R. Whittlesey, concerning the administration of the discount window.[2]

On the basis of statements made by Federal Reserve System officials, Whittlesey concluded that "the idea is simply not correct that the discount window is the locus of a selective process, where, in the interest of economic stabilization, some banks asking to borrow are accepted and others refused." [3] To the contrary, he argued, "the fact is that neither the way in which the discount window is administered or the standards by which member bank borrowing is judged are modified to conform to over-all monetary policy." [4]

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[1] David T. Lapkin and Ralph W. Pfouts, "The Administration of the Discount Window," *The National Banking Review*, 3, December 1965, p. 180.

[2] C. R. Whittlesey, "Credit Policy at the Discount Window," *Quarterly Journal of Economics*, LXXIII, May 1959, pp. 207-216.

[3] *Ibid.*, p. 207.

[4] *Ibid.*, p. 209.

Current events, however, tell of a shift in Federal Reserve thinking that appears to have made the discount window a tool for selective countercyclical monetary policy, at least for the present. The purpose of this paper is to review the reasons for this rather dramatic change in the administration of the window, and to speculate about its implications for the future of monetary policy in general and the discount mechanism in particular. It will be argued that the evidence now available strongly suggests that the shift in discount policy resulted from the Federal Reserve's belief that general monetary restraint could not effectively curb inflationary pressures, unless applied with such vigor as to produce serious disturbances in sectors of the economy that do not, in the System's opinion, need restraining. If this inference is at all accurate, it would seem to imply that the change in the administration of the discount window may be only the first in a series of Federal Reserve policy shifts directed toward increased selective credit control. Before discussing these matters, however, let me briefly review the facts concerning the Federal Reserve's recent actions.

I. *The Federal Reserve's Letter*

On September 1, 1966, the Board of Governors made public the text of a letter sent to all member banks by the presidents of the 12 regional banks. The letter concerned "the growth in over-all bank credit, the increase in business loan demand, and administration of Federal Reserve credit assistance to member banks through the system's discount facilities."[5] More specifically, the letter appealed to banks, in the interest of fighting inflation, to curb the growth in lending to business, particularly in cases where loans were being financed by the liquidation of other banking assets, such as Treasury bills, municipals, and finance company obligations. It also stated that the System's objective of slowing the growth of business loans would be "kept in mind by the Federal Reserve Banks in their extensions of credit to member banks through the discount window."[6]

The letter's strong implication was that any particular bank's access to the discount window would henceforth be partially determined by the degree to which it cooperated in helping the system to achieve its objective of curbing business loan expansion. The following passage from the letter is particularly enlightening on this point:

> Member banks will be expected to cooperate in the system's efforts to hold down the rate of business loan expansion—apart from normal seasonal needs—and to use the discount facilities of the Reserve Banks in a manner consistent with these efforts.[7]

In addition, the letter suggested that cooperating banks could expect to find terms at the window to their liking. Specifically, it stated that the Federal Reserve:

> Recognized that banks adjusting their positions through loan curtailment may at times need a longer period of discount accommodation than would be required for the disposition of securities.[8]

Even though the Federal Reserve's letter failed to define in detail how the new policy would operate, or under what conditions a bank might now be denied accommodation at the discount window, the banking and financial community quickly recognized the letter's implications.[9] *The Wall Street Journal,* for example, noted that "Reserve Bank Tells Banks to Curb (Business) Loans, Threatens Less Lending to Ones that Dont'."[10] Similarly, the *Bond Buyer* wrote that the Federal Reserve was now using the discount window as a "lever to enforce appropriate (bank) lending and investing policies."[11]

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[5] *Federal Reserve Bulletin*, LII, September 1966, p. 1338.

[6] *Ibid.*

[7] *Ibid.*, p. 1339.

[8] *Ibid.*

Now that the Federal Reserve has apparently decided to use the discount window as a tool for selective credit control, two questions seem relevant: (1) what led the members of the Board of Governors to the decision to become more selective, and (2) why was the discount window chosen as a weapon of selectivity?

A. THE MOVE TOWARD SELECTIVITY

Some insights into the first question can be gained from remarks made recently by Governor Andrew Brimmer before a meeting of New England bankers. After reviewing the events of the first eight months of 1966, and, in particular, noting the extent to which money had grown tight during this period, Brimmer commented as follows:

> You would think from this review that the Board would be content. However, despite the obvious attempts of many banks to reduce loans, the amount of business credit, as I have indicated, continued to expand rapidly. Moreover, a prevalent report received in the August survey was that banks were under intense competitive pressures to make business loans—especially to old, established customers. Indeed, one had the feeling that banks felt they *must* accommodate their business customers, even, it seems, at the expense of virtually all other clients and the absorption of heavy capital losses through liquidation of marketable securities.
>
> This reaction of the banking and financial systems to the diverse pressure placed upon it has suggested to some of us that, so far, general monetary policy has not exerted sufficient restraint on business expenditures or on credit flows to the very sector that has been the dynamic center of excess demand for resources. In fact, business outlays and the ability of corporations to finance these outlays seem to remain relatively exempt from a good share of the general attempts to moderate the level of aggregate demand. At the same time, other sectors—both real and financial—have borne a disproportionately large share of the burden of credit restraint.
>
> There are understandable—and perhaps obvious—reasons for this conjuncture of circumstances. One, of course, is the myriad of institutional constraints embodied in law, regulation and customary practices that tend to reduce flows of credit to, say, the municipal and mortgage markets. But, for the major problem at hand—inflationary pressures originating in the business sector, financed in large part with bank credit—it is clear that the principal factor is the preferred position of the business loan customer at a commercial bank.
>
> Banks expend considerable effort in a highly competitive milieu to cultivate relations with business customers. The credit requests of large, old, and important clients, are therefore, exceedingly difficult for a banker to deny. If denied, such customers are quite likely to be attracted by future offers of competitor banks. Thus, not only does the bank attempting to curb business loans run the risk of losing profitable business, it also risks losing deposits—its basic raw material. Consequently, in banking it appears to be common practice to place business customer demands on a very high priority. To meet these demands, banks seem willing to bite ever deeper into other parts of their portfolios.[12]

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[9] It might, of course, be argued that the Federal Reserve intended to establish uncertainty in the minds of bankers to encourage their cooperation.

[10] *The Wall Street Journal,* September 2, 1966, p. 2.

[11] *The Weekly Bond Buyer,* September 6, 1966, p. 2.

[12] Andrew F. Brimmer, "Monetary Policy and the Allocation of Commercial Bank Credit," a speech to Vermont-New Hampshire School of

According to Brimmer, the imperfect nature of banking markets, the traditional relationships between bankers and their business clients, and the presence of various forms of marketable securities in banking portfolios have combined to thwart the contractive impact of general credit restraint on loans to business while, at the same time, producing undue tightness in other parts of the money and capital markets.

Less than a decade ago, statements such as these by a member of the Board of Governors would have seemed strange indeed. The "Availability Doctrine" was in its prime, and we were all being told that the imperfect nature of banking markets, the presence of large amounts of government securities in bank portfolios, widespread rationing of credit by bankers, and the preference of bankers to avoid realizing capital losses on investments, created a situation in which relatively small changes in interest rates resulting from the central bank's activities could have a substantial effect on the supply of loans to business.[13] It is interesting to note that virtually the same factors that not long ago were being used to construct a theory of the effectiveness of general credit controls as a method of fighting inflation are now being used to justify a shift toward the use of selective control.

B. CONTROL THROUGH THE DISCOUNT WINDOW

On reflection, the Federal Reserve's choice of the discount window as a tool for implementing its selective credit objectives is not hard to understand. In the first place, discounting offers greater possibilities for selective credit control than either open market operations or reserve requirement changes as presently constituted.[14] In fact, the discount mechanism is, in many ways, tailor made for selectivity. Banks approach the window on an individual basis and are dealt with on nonprice terms. Thus, opportunities abound for applying accommodation criteria based on the System's selective objectives.

Moreover, a case can be made that the window was designed as a tool for selective countercyclical control. The general guidelines covering member bank borrowing from the Federal Reserve are contained in the Board's Regulation A. This Regulation admonishes Reserve Banks to give "due regard to the purpose of the credit and its effects upon the maintenance of sound credit conditions, both as to the individual institution and *the economy generally.*"[15] In stating that the Federal Reserve has not used the discount window as "the locus of a selective (countercyclical) process," Whittlesey argued that the Board of Governors has traditionally stressed those parts of Regu-

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Banking, Amos Tuck School of Business Administration, Dartmouth College, Hanover, New Hampshire, September 11, 1966, p. 13-14.

[13] See, for example, Robert V. Roosa, "Interest Rates and the Central Bank," in *Money, Trade, and Economic Growth, in Honor of John H. Williams,* New York: The Macmillan Co., 1951, pp. 270-295, or Ira O. Scott, "The Availability Doctrine: Theoretical Underpinnings," *Review of Economic Studies*, XXV, 1, pp. 41-48.

[14] It might, of course, be argued that open market operations directed toward changing the term structure of interest rates by altering the supplies of government securities of various maturities are in some sense selective. That is, they tend to lower interest rates in some sectors of the money and capital markets while raising rates in others. There are those, however, who feel that the Federal Reserve's power to influence the shape of the term structure is very limited. See, for example, Arthur Okun, "Monetary Policy, Debt Management and Interest Rates: A Quantitative Appraisal," in *Stabilization Policies,* Englewood Cliffs, New Jersey, Prentice-Hall, 1963.

[15] Board of Governors of the Federal Reserve System, *Advances and Discounts by Federal Reserve Banks,* Regulation A, p. 2. (Italics supplied.)

lation A that are directed "toward the avoidance of undesirable operating practices on the part of the individual bank." [16] In particular, it was his belief that the Board viewed the Regulation as "designed to prevent individual banks from borrowing too long, too continuously, too much, or for speculative purposes." [17] Governor Brimmer, however, in defending the Federal Reserve's recent actions, emphasized those parts of the Regulation referring to the maintenance of "sound credit conditions" for "the economy generally." In particular, he stated that the discount window policy outlined in the Federal Reserve's letter of September 1 is "very much in keeping, in the present circumstances, with the Federal Reserve Act's concern with 'sound credit conditions.'" [18] He added that "to the Federal Reserve System 'sound credit conditions' in banking today means a slower growth in business loans and a reduction in the liquidation of other parts of bank portfolios." [19]

II. *Possible Implications*

What, if anything, can be inferred about future Federal Reserve actions from the decision to use the discount mechanism for selective credit policies? Is this an isolated development, or does it stand as a harbinger of things to come? It would be foolhardy, at present, to attempt definitive answers to questions such as these. Nevertheless, on the basis of previous knowledge, some possible implications can be outlined.

For example, the logic behind the recent shift in the administration of the discount window, as explained by Governor Brimmer, suggests that the Federal Reserve's beliefs about the nature of the monetary system and the *modus operandi* of monetary policy have turned 180 degrees in the last decade or so. In the midfifties, owing to the work of Roosa and others, a "new" theory of monetary control, emphasizing the sensitivity of the availability of credit to relatively small changes in interest rates, led to renewed faith in the powers of general monetary policies. Thus, Warren Smith was able to write in 1956 that:

> The Federal Reserve System and its representatives are inclined to put almost exclusive emphasis on the control of aggregate member bank reserves and the resulting control of the money supply and the total quantity of bank credit. Asset transformations which result in a more intensive utilization of the existing money supply are neglected almost entirely. Discussions of bank loan expansion are often couched in phrases which leave the impression that the inflationary effects of such expansion are practically nil when the expansion of loans is offset by bank liquidation of Government securities holdings.[20]

As the fifties progressed, however, the argument that the Federal Reserve's emphasis on general monetary controls might be unwise, particularly during inflationary periods, was heard with increasing frequency. Smith, for example, argued that the very same factors that were being enlisted on the side of the availability thesis, such as credit rationing and the presence of large amounts of marketable securities in bank portfolios, might reduce, rather than increase, the potency of general controls in fighting inflation. In brief, he argued that these factors "may operate to effect a more efficient utilization of the existing money supply, thus producing what will appear statistically as an increase in velocity." [21]

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[16] Whittlesey, *op. cit.*, p. 210.

[17] *Ibid.*, p. 209.

[18] Brimmer, *op. cit.*, p. 5.

[19] *Ibid.*

[20] Warren Smith, "On the Effectiveness of Monetary Policy," *American Economic Review*, LXVI, September 1956, p. 604.

[21] *Ibid.*, p. 601.

Smith, and others making this argument, were aware that general policies could exert substantial restraint on aggregate expenditures, if applied with sufficient vigor. However, they argued that this would also lead to undesirable disturbances in those sectors of the economy that required restraint. The following statement by Stephen Rousseas is representative of this point of view:

> If an excessive rate of growth in one or more sectors of the economy introduces distractions which threaten the stability of the whole, indirect controls, in their general approach, are faced with a dilemma. Either they permit the disequilibrating expansion to continue, or general restraints are introduced which affect other sectors of the economy as well. If these other sectors were initially in a depressed condition, their situation worsens. If, on the other hand, they were expanding at a reasonable rate they should be left alone. In either case, the results are not conducive to stability.[22]

There can be little doubt that the Federal Reserve was giving some attention to arguments such as these during the late fifties. In recently surveying "official" central banking theory, Lawrence Ritter commented, for example, that the Board, by 1961, no longer viewed a large and widely-held Federal debt, and a well-developed financial system "as unmixed blessings since they facilitate the mobilization of idle balances and the creation of credit despite the actions of the central bank." [23] In particular, he noted that "the lock-in effect with respect to sales of securities, particularly by large banks, has been sharply downgraded." [24]

The extent to which the experience, during the current upswing, has fostered the Federal Reserve's espousal of the Smith-Rousseas position, and its implications for policy, that is, the development of direct controls of commercial bank lending activities, is apparent in Brimmer's statement. Indeed, the similarity between Brimmer's account of what had recently occurred in the various sectors of the money and capital markets, in response to tightening general monetary controls, and Rousseas's description of the *modus operandi* of general monetary restraint during a period of inflation, is striking.

It is but a short jump to conclude that, if the Federal Reserve now adheres to the thesis that imperfections in the capital markets make general credit controls ineffective as a means of fighting inflation, it could begin to press for additional selective credit controls, particularly if the use of the discount window fails to be effective. Many such controls have been suggested. Most, including secondary reserve requirements and reserve requirements based on asset holdings rather than deposits, would be directed toward influencing commercial bank lending and investing practices. Others, however, would give the Federal Reserve control over the credit policies of nonbank financial intermediaries as well.

SIGNIFICANCE FOR THE DISCOUNT WINDOW

The Federal Reserve has said it will administer the discount window as a means of achieving selective credit objectives, and this will almost certainly have broad implications for the future of discount operations. Two, in particular, come to mind.

Consider first the matter of the locus of control of the discount window. Recently, Lapkin and Pfouts argued that evidence concerning the patterns of member bank borrowing supported the position that there were marked interdistrict differences in the administration of the window, that district banks had considerable independence in setting discount policies.[25] This is not too surprising. For in a situation where the discount mechanism was being administered independently of monetary policy, such differences could be tolerated, so long as they did not get out of hand.

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[22] Stephan Rousseas, "Velocity Changes and the Effectiveness of Monetary Policy, 1951-57," *Review of Economics and Statistics*, LXII, February 1960, p. 27.

[23] Lawrence Ritter, "Official Central Banking Theory in the United States, 1939-61," *Journal of Political Economy*, LXX, February 1962, p. 28.

[24] *Ibid.*, p. 28.

Now that the discount window has been made a tool of selective countercyclical policy, however, it seems difficult to imagine that interdistrict independence will be allowed to persist. To the contrary, it seems likely that the administration of the window will become centralized in the hands of the Board of Governors who control other countercyclical policies.

Indeed, this may already be happening. On September 23, 1966, *The American Banker* noted that "it is an open secret in the banking community that the discount officers of the twelve Federal Reserve Banks have been meeting at the New York Fed for a good part of the week to discuss the new (discount) policy. They have been addressed by members of the Federal Reserve Board, as well as by other officials of the system." [26]

A second implication of the recent shift in policy is that discounting may become a significantly more important source of reserves for member banks. For, in order to bring selective pressures to bear on banks, the Federal Reserve must first attract them to the discount window.[27] Moreover, the Federal Reserve's statements concerning its recognition of the need for longer periods of accommodation, suggest that banks may be allowed use of the discount window as a more permanent source of reserves as well, so long as they cooperate with the Federal Reserve.

This is not to say, of course, that discounting may become a way for banks to expand total reserves against the Board's will; presumably, any development at the discount window could be counteracted by appropriate open market operations. To the contrary, it simply means that, while supplying a given level of reserves, the Federal Reserve may now be able to exercise considerably more direct control over the lending and investing practices of individual banks.

III. *Conclusion*

The Board of Governor's recent decision to use the discount window as a tool of selective countercyclical credit control, and the logic which apparently led to this decision, suggest: (1) that the Federal Reserve may now be firmly convinced that general monetary controls cannot effectively combat inflation, unless applied with such vigor as to cause serious disturbances in sectors not in need of restraining; (2) that discounting as now constituted may become an increasingly important policy tool over which the Board can be expected to assume primary control; and (3) that the Federal Reserve may seek additional selective credit controls.

For the present, this analysis must be viewed as preliminary. However, should events in coming months prove it at all accurate, it seems safe to say that economists of the Smith-Rousseas persuasion will feel vindicated, while others, who view velocity as relatively stable and the money supply as the crucial variable, will have still another disagreement with the Federal Reserve.

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[25] Lapkin and Pfouts, *op. cit.*, pp. 179-186.

[26] *The American Banker*, September 23, 1966, p. 9.

[27] To move more banks to the discount window, the Federal Reserve may begin manipulating other aspects of monetary control. The Board's recent decision not to raise the ceiling rate on interest paid on Certificates of Deposit, and the maintenance of a 4½ percent discount rate in the face of short-term money market rates exceeding 5½ percent, could be cases in point.

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► EDWARD K. GILL and EDWARD W. REED

The Investment Performance of Common Stock Common Trust Funds

The number of common trust funds and their total market value have grown significantly in recent years. From the end of 1960 to the end of 1965, the number of such funds increased from 420 to 1016, and the number of commercial banks and trust companies operating them increased from 327 to 464. The total market value of these funds advanced during the same period from $2.8 to $7.5 billion.[1] There has been little information publicly available concerning the performance of common trust funds. The objective of this study is to provide some evidence of this performance.[2]

The elements of performance which we shall consider are: appreciation, yield, and stability. We shall first compare a composite of common trust funds with Standard and Poor's 500 Stock Index and with several mutual fund indexes prepared by Arthur Wiesenberger and Company.[3] Then, we shall attempt an anal-

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[1] Stanley Silverberg, "Bank Trust Investments in 1965," *The National Banking Review*, 3, June 1966, p. 492.

[2] When classified according to asset composition, common trust funds fall into three broad categories: fixed income funds, equity or common stock funds, and diversified funds. The latter are composed of portfolios of common stocks and debt instruments combined, and are expected to provide some appreciation while yielding a more stable income than is provided by common stock funds.

[3] Arthur Wiesenberger and Company, *Investment Companies*, New York: Arthur Wiesenberger and Company, 1965.

ysis of relative performance among common stock common trust funds. For this purpose, simple coefficients of correlation are developed between measures of appreciation, yield, and stability. The period covered is from the end of 1960 through the end of 1964, though some deviations were necessary.

I. *Source of Data*

Data for this study were obtained through questionnaires sent to the 207 trust institutions which, according to a list provided by the Office of the Comptroller of the Currency, operated common stock funds as of late 1964. There were 146 respondents to the questionnaire, a 71 percent return. This is sufficiently high to permit analysis, but it should be kept in mind that bias might exist. For example, reluctance to return the questionnaires might have been greater among those institutions whose funds performed poorly. Possibilities such as this cannot be disproved.

II. *Common Trust Fund Indexes*

In order to make the comparisons with the Standard and Poor's 500 Stock Index, and the mutual fund indexes, the data for the common trust funds were combined into indexes. Because of the lack of correlation between the various funds' valuation dates, four indexes were prepared. Regulation 9 of the Comptroller of the Currency, which provides the ruling for the operation of common trust funds, requires only that they be valued once each quarter. Most funds hold to the quarterly valuation, though some are valued monthly. Fortunately for this study, most of the funds (124 of those which provided data, or 85 percent) use the last business day of their chosen month or quarter. Therefore, one index of monthly-valued funds, and three of quarterly-valued funds, were readily feasible.

The indexes were given a base of 100 on their first valuation date. Funds begun after this date were added to the indexes in the same manner that new issues are added to a common stock index. Values of the Standard and Poor's 500 Stock Index and the mutual fund indexes were converted to a base of 100 on the dates which make up the first valuation dates of the common trust fund indexes.

III. *Comparison With Standard and Poor's 500 Stock Index*

The common trust funds are compared with Standard and Poor's 500 Stock Index in Charts 1 through 4, and with the mutual fund indexes in Charts 5 through 8. Since three different base dates are used, the charts can be compared to each other only to a limited extent.

The yields on the common trust fund indexes and the Standard and Poor's 500 Stock Index are compared in the lower part of each chart. Yield percentages for the Standard and Poor's Index were available only for quarters ending March 31, June 30, September 30, and December 31. As a result, the yield comparisons in Charts 3 and 4 are not for exactly corresponding quarters. However, the discrepancy is not considered to be sufficient to hide any significant variations in yields. All yield figures are rounded to the nearest tenth of a percent.

The composite performance of common trust funds was not greatly different from that of the Standard and Poor's 500 Stock Average during the first two and one-half years of the four-year period. As the 1963-1964 bull market continued, however, the price performance of the common trust funds was inferior to that of the general market. Yield performance was very similar, except during the low period of 1962. The yield on the Standard and Poor's Index increased about 33 percent during early 1962, as the value

Prices and Yields: Standard and Poor's 500 Stock Index and Common Trust Fund Indexes

CHART 1
17 Common Trust Funds (12/31/1960=100)

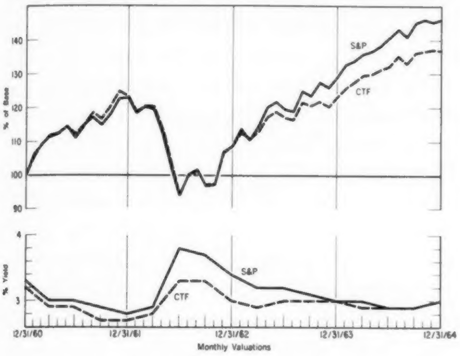


CHART 2
11 Common Trust Funds (12/31/1960=100)

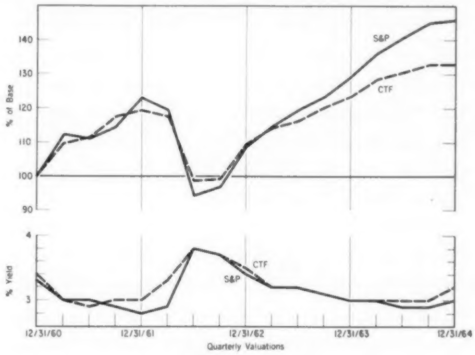


CHART 3
75 Common Trust Funds (1/31/1961=100)

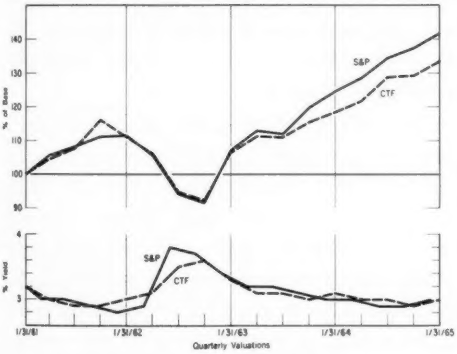
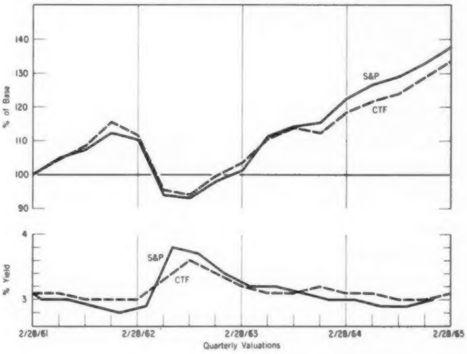


CHART 4
21 Common Trust Funds (2/28/1961=100)



of the index declined roughly 25 percent.[4] Common trust funds lost almost as much value as did the Standard and Poor's Index, but the yields did not rise as sharply during the decline. It may be that some common trust fund managers were switching part of their stocks to short-term government securities during the latter part of the decline. This would have prevented the common trust funds from receiving the mid-year dividends on the stocks sold. The interest on any government bills acquired in the late phases of the decline would not have been received until well past the middle of the year, and this interest would not have fully offset the lost dividends. Yields on government bills were about 2.6 percent during this period, as compared with about 3.8 percent on the Standard and Poor's Index.

Stability performance, which can be judged from the graphs only by the size of the fluctuations from valuation date to valuation date, appears to be very similar for the common trust fund indexes and the Standard and Poor's 500 Stock Index. The yield performances are also very nearly equal, and price performance favors the Standard and Poor's Index only after mid-1963.

Common trust funds have several disadvantages, however. They must pay brokerage and other expenses. The temporarily idle cash which they hold will restrict their price performance in periods of rising stock prices. Moreover, the newer funds did not, in general, perform as well as the older funds in the indexes. Of the 75 funds in Chart 3, 40 were in operation at the beginning of the four years. The average annual appreciation of these was 8.6 percent, while that for the entire index was 7.3 percent.

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[4] This movement reflects the fact that dividend payout by corporations did not decline in 1962, even though stock prices dropped sharply. If a stock declined 25 percent in value, its yield would increase 33 percent with no change in dividend rate, for example.

Although some allowance should be made for these limitations, its exact value would be difficult to determine. We assume that such an allowance would make up the differences in price performance between the common trust fund indexes and the Standard and Poor's Index. This assumption is not unrealistic and does not greatly alter the conclusion to be drawn from this section. It allows us to state that: During the four-year period covered, the average performance of common stock common trust funds was equivalent to that of the general stock market as measured by the Standard and Poor's 500 Stock Index.

IV. *Comparison With Mutual Fund Indexes*

Two indexes of mutual fund performance for each of two categories of funds composed entirely of common stock—classified as "growth" and "growth-with-income"—are published in an annual survey by Arthur Wiesenberger and Company.[5] These four mutual fund indexes will be compared with the common trust fund indexes. Two of these mutual fund indexes are not designated as such by Wiesenberger's, but since they are averages of the performance of virtually every major mutual fund in each category, they are considered here to be general indexes of performance.

In computing the performance measure for each mutual fund in each of these general indexes, it is assumed that capital gains and income are reinvested. The value at the end of the period, and the start of the period is divided into the value at the end of the period, and the resulting percentage increase or decrease is the measure of that fund's performance. The common trust fund price and value indexes were constructed exclusive of income distributions, so in order to allow exact comparisons it was necessary to assume that income was not paid out but was held and reinvested. Two common trust fund indexes which are valued on December 31, were reconstructed on this basis. The valuation dates of the other two did not correspond exactly to the dates on which the mutual fund performance figures were computed.

The important results of these comparisons can be stated briefly. From the end of 1960 through the end of 1964, the growth mutual fund index appreciated 39 percent, and the corresponding growth-with-income index increased 47 percent. The two common trust fund indexes, with income assumed to be reinvested, grew by 51.1 percent and 49.8 percent. During 1962, a year of major decline, the growth mutual fund index dropped by 19 percent, the growth-with-income index declined 12 percent, and the common trust fund indexes as compared here declined 9.5 percent and 6.1 percent.

The second pair of mutual fund indexes is set forth in graphical comparison with the four common trust fund indexes in Charts 5 through 8. These mutual fund indexes are designated as Wiesenberger's Indexes in the annual investment company report of Wiesenberger and Company. Each index consists of the average values of five mutual funds, each fund selected for homogeneity of objective. Quarter-by-quarter values for these

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[5] Arthur Wiesenberger and Company, *op. cit.*

Prices: Wiesenberger's Growth and Growth-with-Income Mutual Fund Indexes and Common Trust Fund Indexes

CHART 5

17 Common Trust Funds (12/31/1961=100)

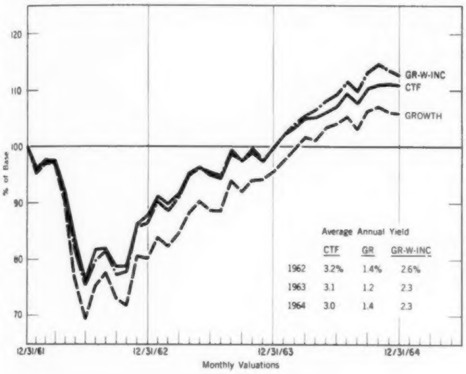


CHART 6

11 Common Trust Funds (12/31/1961=100)

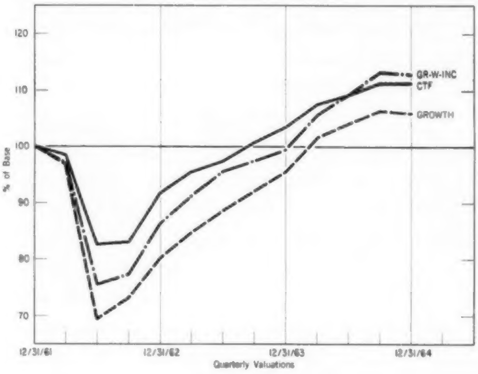


CHART 7

75 Common Trust Funds (1/31/1962=100)

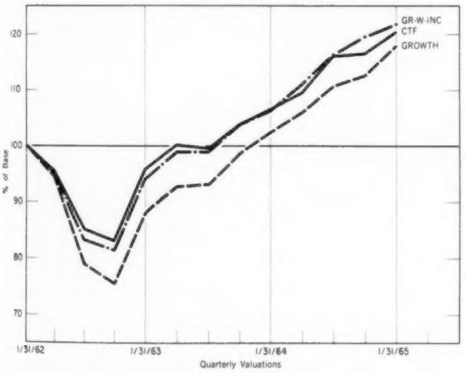
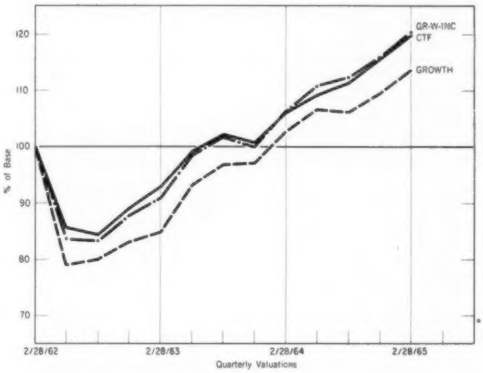


CHART 8

21 Common Trust Funds (2/28/1962=100)



indexes were available only from the end of 1961 on; therefore, these charts cover three years rather than four. Yield comparisons on an annual basis are set forth in the lower right corner of Chart 5.

The charts indicate that the price performance of the common trust funds was quite similar to that of the growth-with-income index. Particular notice should be given to Chart 7 regarding this point, since it contains 60 percent of the common trust funds in all the common trust fund indexes. Common trust funds were somewhat more stable in the 1962 decline than was the growth-with-income mutual fund index, but they did not grow as rapidly after mid-1962. Common trust funds were clearly more stable and provided more appreciation during the three years than did the growth mutual fund index. Yield performance of common trust funds was vastly superior to that of either mutual fund index.

The comparisons in Charts 5 through 8 produce results similar to those of the earlier four-year comparisons with the general mutual fund indexes. On this basis, it may be concluded that: The investment performance of common stock common trust funds was superior to that of common stock mutual funds, as reflected by the Wiesenberger Indexes, for the four-year period ended December 31, 1964, and for the three-year period ended December 31, 1964.

CHART 9

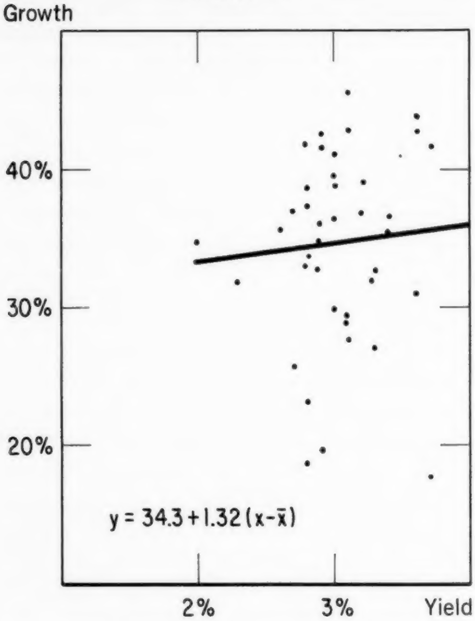
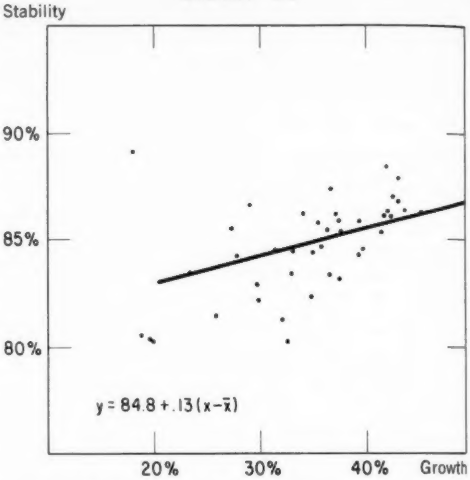


CHART 10



V. *Simple Correlation Analysis of Common Trust Fund Performance*

In this section, we deal with the relative performance of the funds. Forty funds, in operation throughout the four-year period ending January 31, 1965, are analyzed. Three measures of performance for each fund were computed: one for appreciation, one for yield, and one for stability. The appreciation, or growth, measure is the change in value from January 31, 1961 to January 31, 1965, expressed as a percent of the January 31, 1961 value. The yield measure is the mean quarterly yield. The quarterly yields were computed by dividing the total past year's income for the fund by its value at the end of each quarter. The stability measure is the July 31, 1962 value of the fund expressed as a percent of its January 31, 1962 value. This is an arbitrary measure, but since the early 1962 market decline was very sharp in its effect and encompassed the entire market for common stocks, it was a good test of the stability of common stock portfolios.

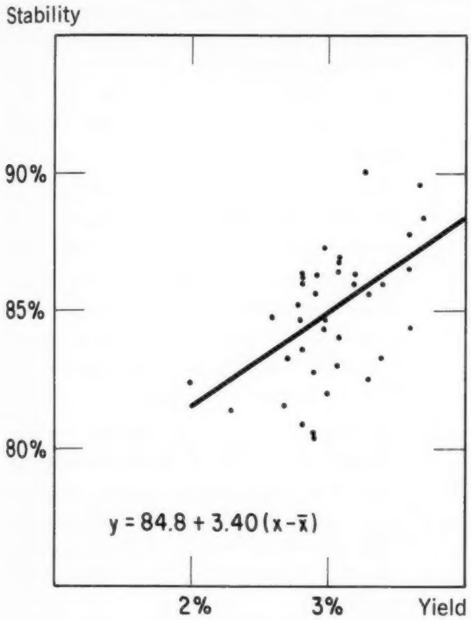
Coefficients of correlation were computed for each pair of performance measurement series and were found to be as follows:

Between growth and yield	.0680
Between growth and stability	.3778
Between yield and stability	.5271

The usual tests of the null hypothesis of no correlation (which assume normally distributed populations) indicate that the first coefficient is not significant, and the second and third coefficients are significant at the 2 percent and .1 percent levels, respectively.

The nature of the relationship between the three pairs of series is clearer in Charts 9 through 11. The various points of growth-yield, growth-stability, and yield-stability are plotted, and the least squares line of best fit has been computed for each. It must be pointed out that this section is not based on regression analysis, even though the lines are computed by finding regression coefficients. Regression analysis assumes a causal effect of one of the variables on the other, while correlation analysis simply seeks a degree of association. The nature of any causal relationships between the variables dealt with here would be very difficult to define, so correlation analysis seems most appropriate.

CHART 11



The first coefficient of correlation indicates no significant relationship between growth and yield. The funds which grew most produced yields at least as high as did the slower growing funds. This result is important, since it would normally be expected that rapid growth would be accompanied by low yields and slow growth by higher yields. The low positive correlation between growth and yield indicates that the selection of stocks primarily for growth may not have been fruitful during the four-year period studied. This same lack of success in the case of mutual funds was apparent in the previous section. Those mutual funds with rapid growth objectives did not advance as much during the four years as did the growth-with-income funds which place more emphasis on providing reasonable yields.

The second coefficient of correlation indicates a strong positive relationship between growth and stability. By the measures used here, the funds which grew most over the four years declined least during early 1962. Of course, there is some built-in bias here, because those funds which fell least in early 1962 did not have as far to go to reach new highs during the subsequent period. Nonetheless, the opposite result, that is, a negative correlation between growth and stability, would normally be expected, because lack of stability is characteristic of the so-called growth stocks.

The third coefficient reveals a high positive correlation between yield and stability. This meets with normal expectations. It means that the higher-yielding funds, which apparently seek reasonable income returns, were most stable. The most successful common trust funds during the four years, then, as well as the most successful mutual funds, appear to be those which sought reasonable yields and did not invest primarily in the so-called growth stocks. In fact, it may be that common trust fund managers would have been in error to invest primarily for growth, at the expense of income, at any time in the recent past. The general performance record of growth stocks in the 1940's and 1950's is slightly inferior to the performance of Standard and Poor's 500 Stock Index.[6] IBM was the outstanding exception to this record, but as the Wharton Study pointed out, IBM shares made up only about one-half of one percent of the value of common stock holdings of mutual funds just prior to the period of its rapid growth.[7]

VI. *Two Funds Compared*

A number of trust institutions operate more than one common stock fund. An opportunity to compare a "growth" fund with a "growth-with-income" fund is provided in one situation where the two funds were started on the same date, by the same institution, with the same management for both funds. These funds were started near the market high of 1961. By the end of 1964, the growth fund had appreciated 3 percent, the growth-with-income fund 8 percent. During that period, the growth fund provided an average yield of 1.8 percent, the growth-with-income fund 3.8 percent. From February 28, 1962 to May 30, 1962, the growth fund declined 23 percent while the growth-with-income fund declined 14 percent.

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[6] Benjamin Graham *et al*, *Security Analysis*, New York: McGraw-Hill, 1962, p. 535.

[7] U.S. Securities and Exchange Commission, *A Study of Mutual Funds*, Report of the Committee on Interstate and Foreign Commerce, 87th Congress, 2d Session, 1962.

VII. *Summary and Conclusions*

The objective of this study was to provide some evidence of the investment performance of common stock common trust funds. The following are our conclusions:

1. During the four-year period from the end of 1960 through the end of 1964, the average performance of common stock common trust funds was equivalent to that of the general market as measured by the Standard and Poor's 500 Stock Index.
2. During the four-year period through the end of 1964 and the three-year period through the end of 1964, the average performance of common stock common trust funds was superior to that of common stock mutual funds as measured by Wiesenberger's Indexes.
3. During the four-year period ending January 31, 1965, the common stock common trust funds which appreciated most were also the most stable and produced yields equal to those of the slower-growing, less-stable funds.

► ROBERT W. JOHNSON and EUGENE E. COMISKEY

Breakeven Analysis in Instalment Lending

For years, practitioners and accountants in the field of consumer instalment credit have been calculating "breakeven loans," that is, the size of credit extension, given a particular maturity and finance rate, at which income and costs are equal.[1] A number of Federal Reserve banks have now joined in this activity as part of functional cost analysis programs.[2] The purpose of this article is to analyze this practice and to discuss a number of related problems.

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[1] M. R. Neifeld, *Trends in Consumer Finance*, Easton, Pa.: Mack Publishing Co., 1954, pp. 95-100; Harold E. Randall, "The Basic Cost Factors in Instalment Lending," *Time Sales Financing*, 13, May 1949, pp. 7-8 and 20-21; Gilbert W. Urban, "Time and Dollar Costs in Consumer Financing," *N.A.C.A. Bulletin*, 36, April 1955, pp. 1063-1068; *Instalment Credit*, New York: American Institute of Banking, The American Bankers Association, 1964, pp. 137-139; Max A. Mitcham, "Eye-Opening Statewide Survey of Bank Costs," *Burroughs Clearing House*, 50, April 1966, p. 39; J. T. Arenberg, "Consumer Credit Net Yields," Arthur Andersen and Co., Subject file AD 7810, Item 20.

[2] The program of functional cost analysis was first developed by the Federal Reserve banks of New York and Boston, and more recently adopted by the Federal Reserve banks of Chicago, Cleveland, St. Louis, Minneapolis, and San Francisco. The data cited in this study for illustrative purposes are from *Functional Cost Analysis: 171 Bank Comparative Study, Deposits up to $50 Million, 1965-64,* subsequently referred to as *Functional Cost Analysis.* This study covers banks in the Boston, New York, and Philadelphia districts.

I. *The Basic Framework*

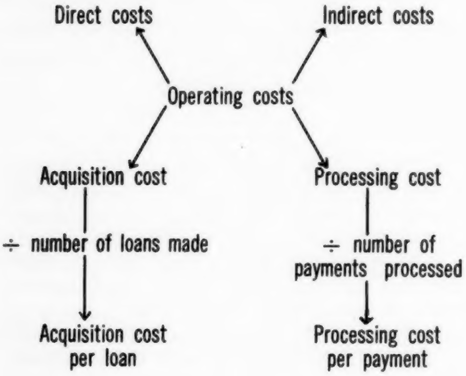
The first step in functional cost analysis of instalment loans is to allocate various direct costs to the instalment loan department. Second, indirect costs such as occupancy, business development, and administration are allocated to the instalment loan activity on the basis of that department's proportionate share of the total direct costs. Direct expenses of the instalment credit departments in the 171 banks studied in 1965 equaled 15.7 percent of the total direct expenses. Thus, 15.7 percent of total indirect costs was charged to the instalment loan activity.

The third step divides total operating costs into two classifications:

(1) Acquisition expense—All costs associated with the successful or unsuccessful effort to acquire instalment loans.

(2) Processing cost—All salaries, supplies, and costs required to service the loans on the books, including any collection effort made.[3]

Acquisition costs are then expressed as cost per loan acquired, and processing costs as cost per payment processed. These cost allocations are summarized in the diagram below:



Two remaining cost elements are expressed as a percent of the average dollar amount of loans outstanding:

(3) Bad debt cost—The average annual losses on instalment loans, net of recoveries, for the preceding seven years are expressed as a percent of the average instalment portfolio outstanding during the year.[4]

(4) Cost of money—The costs of servicing demand and time deposits (including interest expense), less any service charge income, are divided by total available funds to measure the cost of money as a percent of average dollar outstandings in the instalment loan portfolio.[5]

The four elements, comprising total instalment loan cost and their average values in 1965 for the 171 banks studied, are shown below:

Instalment-Loan Cost	**171 Bank Average**	**Cost Basis**
Acquisition cost	$17.47	per loan made
Processing cost	$ 0.96	per payment processed
Bad debt cost	0.226 percent per year	average instalment portfolio
Cost of money	2.42 percent per year	average instalment portfolio

II. *Development of Breakeven Loan Size*

Calculation of the breakeven loan size entails the solution of an algebraic expression based on the following components:

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[3] Instalment Unit Cost Study, General Instructions for Schedule D.

[4] Since instalment loans have been rising, this procedure tends to understate the net bad debt percentage.

[5] This procedure appears to be deficient in two respects. "Available funds" is the total of all liabilities plus net worth less fixed and other assets. No charge is made for the cost of equity. In addition, the same rate of charge is applied to the average outstandings in each of the functional areas (and the cost of money then deducted from net earnings). For these reasons, the charge of 2.42 percent to the instalment loan function appears to be low.

C_a = Acquisition cost per loan.

C_p = Processing cost per payment.

C_b = Bad debt cost as percentage per annum of average dollar outstandings.

C_m = Cost of money as percentage per annum of average dollar outstandings.

C_v = $C_b + C_m$, variable costs as percentage per annum of average dollar outstandings.

i = Add-on finance rate—percent per year of initial unpaid balance.

N = Number of payment periods in the contract.

X = Breakeven loan size.

The breakeven loan size is calculated by equating income to costs and solving for X in the following equation:[6]

$$(1)\ Xi\left(\frac{N}{12}\right) = C_a + NC_p + \frac{N}{12}\cdot\frac{C_v\,(N+1)\,X}{2N}$$

Solving for X, we have:

$$(2)\ X = \frac{24\,(C_a + NC_p)}{2iN - C_v\,(N+1)}$$

The breakeven loan size for a 24-month loan (N = 24) at an add-on finance rate of 6 percent (i = .06) can be calculated by substituting the appropriate values in (2):

$$X = \frac{24\,[17.47 + (24)\,(0.96)]}{[(2)\,(.06)]\,24 - .02646\,(24+1)}$$

$$= \$438.24$$

A number of similar calculations are summarized in the Table on page 4.

III. *Interpretation*

The following sections discuss the possible uses of breakeven analyses of instalment loans. Although the functional cost analysis program provides no guidelines for bank management, other proponents of the breakeven approach have suggested applications that warrant analysis.[7]

A. PORTFOLIO MANAGEMENT

The consumer credit department of a commercial bank is essentially involved in portfolio management. The management of the bank must decide the portion of the bank's assets to be committed to that department. But within the department, additional allocation problems occur daily. Decisions must be made on each loan applicant, the types of paper to be purchased, and the sources of instalment paper to be used.

Although a lending officer might reject all loan applicants seeking less than the breakeven amounts, most proponents of breakeven analysis are more circumspect: "As a matter of policy, it is not always possible to operate an instalment credit department and accept only profitable business."[8] Loans are made below the breakeven level to encourage good will, and in the hope that these loans may be enlarged or renewed at a lower acquisition cost. However, a more persuasive argument exists for a policy of accepting loans below the breakeven point.

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[6] In the last term of the equation, the average dollar outstanding over the life of the credit extension is given by (N + 1) X/2N. This is a reasonably accurate approximation under the "constant-ratio method." It understates the average balance slightly, with the result that the breakeven loan is slightly understated as well. A more important problem is the treatment of bad debt expense as directly variable with the size and maturity of loan. Evidence suggests a nonlinear relation between bad debts and maturity.

[7] "Interpretation and application of the findings is (sic) left to the participating bank." *Functional Cost Analysis*, p. 1.

If loan breakeven analysis is a suitable decision model, it should follow that accepting loans of less than breakeven size would reduce bank profits; that is, the resulting increase in costs (ΔC) would be greater than the increase in revenues (ΔR), with a subsequent reduction in profits (ΔP).

$$(3)\quad \Delta R - \Delta C = \Delta P < O$$

This is not necessarily the case. As the previous two sections have indicated, breakeven analysis is based upon a total cost concept. The acquisition and processing cost elements include both direct and indirect costs. Indirect costs are largely fixed and, therefore, will be unaffected by the activity of the instalment loan department.[9] Even in the case of the direct costs of instalment lending, fixed cost elements are present in the short run, unless all elements of the department are operating at full capacity during each hour of the day. For example, no wage cost can be directly assigned if an interviewer takes an application for a $300 loan when he would otherwise be idle.

TABLE

1965 Instalment Loan Breakdown Points for 171 Banks

Maturity (in months)	Add-on Finance Rate .04	.05	.06	.07
6	$1,891	$1,344	$1,043	$851
12	1,129	813	635	521
18	890	643	503	413
24	773	559	438	360
30	703	509	399	329
36	657	476	374	307

Source: Adapted from **Functional Cost Analysis 171 Bank Comparative Study, Deposits Up To $50 Million 1965-64**, p. A12.

The effect of excluding indirect expenses from breakeven calculations on a 24-month loan for $438 at an add-on rate of 6 percent is shown below. The breakeven loan contributes at least $12.48 to before-tax profits.

	Full-cost basis	Direct-cost basis
Change in revenue (ΔR)	$52.56	$52.56
Change in costs (ΔC):		
Acquisition	17.47	12.19
Processing	23.04	15.84
Bad debt and cost of money	12.05	12.05
	$52.56	$40.08
Change in profits (ΔP)	$ 0	$12.48

The elimination of all loans below the breakeven point would also serve to raise the breakeven point, since the indirect costs would then be spread over a smaller number of loans. A policy of refusing loan applications below the breakeven points as adjusted sequentially could eventually force the department out of business.

If breakeven analysis does not enable a department to decide whether to accept or reject individual loans, does it provide a guideline for accepting or rejecting certain types or sources of business? It is entirely possible to continue the same type of functional cost analysis by product lines or to allocate costs and revenues to particular sources of instalment paper. In this manner, tables like the Table above could be developed for appliance paper and automobile paper, for direct versus indirect sources of instalment paper, and even for particular dealers. The result may show that "on the average, no automobile loan of less than $500 will prove profitable for any of the maturity periods shown." [10] Alternatively, it might be discovered that an entire block of business is unprofitable because most of the instalment paper acquired is below the breakeven point.

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[8] *Instalment Credit, op. cit.*, pp. 138-139. See also Neifeld, *op. cit.*, p. 98; and Elmer Grant, "Profit from Installment Credit: Challenge to a Popular Belief," *American Banker*, March 29, 1965.

[9] Where the growth of instalment loan activity would force an increase in indirect costs, such as occupancy cost, the decision to expand should be based on a marginal analysis that includes the added occupancy cost. Breakeven analysis provides no apparent help in this decision.

These conclusions, if based on a full allocation of indirect expenses, are likely to be incorrect for the same reasons explained in relation to accept-or-reject decisions on individual loans. The only way to decide whether to drop a particular source of business is to determine which costs and which revenues will be eliminated. For example, if the funds invested in appliance paper provide a greater addition to profits than if they were invested elsewhere in the bank, then investment should be continued even though most of the paper falls below the breakeven point.[11]

An alternative to rejecting a loan below the breakeven point is to increase the size and/or to lengthen the maturity to raise it above the breakeven level. Although blind acceptance of the breakeven analysis might well lead to this decision, its merits are doubtful. There are cases where a credit grantor may properly consolidate debts to increase the size of the loan, but he does not need a breakeven analysis to establish the merits of this decision. In other instances, adjusting the size and maturity of a loan merely to place it above the breakeven level often increases the risk of nonpayment. Since breakeven analysis is based upon an average risk, increasing the risk to make a particular loan "acceptable" in relation to the breakeven point may represent poor portfolio management.

B. Rate Making

Breakeven analysis has also served in rate making, justifying the use of minimum fees and increased rates charged on smaller loans.[12] In other instances, the analysis has encouraged bankers to shift consumers from instalment loans to check-credit plans providing a higher rate of charge or lower handling costs.[13] In these cases, breakeven analysis provides more of a goad than a guideline. If rates could be raised to borrowers of small accounts, so that net profits are increased, this could have been accomplished without breakeven figures. The principle of graduated rates has been used in the small loan field by nonbanks for years, but breakeven analysis has been required to inspire banks to follow this example.

In determining the proper level of minimum charges, breakeven analysis often provides misleading information. Consider the full costs of a six-month loan for $100:

Acquisition cost	$17.47
Processing cost (6 x $0.96)	5.76
Bad debt and cost of money (2.646 percent of average balance)	.77
Total	$24.00

If these are accepted as the assignable costs on this type of loan, an effective annual rate of about 78 percent would be required. From a strictly economic point of view, the issue is not whether this rate is "fair" to consumers or to the bank, but whether this rate would reduce profits by driving many small loans from the bank. This decision is related to the market for this type of loan and to the sensitivity of consumers to the rates charged. It also requires the same type of marginal analysis discussed earlier, and the consideration of questions of public policy.

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[10] Gilbert W. Urban, *op. cit.*, p. 1068.

[11] See *Developing Cost Information on Instalment Credit Operations*, New York: Instalment Credit Committee, American Bankers Association, 1964, pp. 29-32. Accepting a particular block of business on a marginal-cost basis may bring closer the need for additional expenditures on supervision or fixed assets. Marginal cost analysis is deficient in failing to take this fact into consideration.

[12] Randall, *op. cit.*, p. 20.

[13] Grant, *op. cit.*

C. Expense and Income Control

A final possible use of the functional cost approach to breakeven analysis is to compare one bank's data with that for all banks in the sample. A banker may compare his cost of making an instalment loan with the average cost of $17.47. Similarly, a banker might find that for all maturities and add-on rates his breakeven loans are higher than the average for other banks.

While such comparisons may be useful as a form of exhortation to reduce costs, they may be misleading as a management tool. The size of the instalment credit department, as well as the size of total deposits, may influence the cost structure. Available studies suggest that cost per loan is inversely related to the number of loans made.[14] Hence, it would be misleading for a bank that made 1,800 instalment loans during the year to compare its average loan costs with the 171 bank average of 2,834 loans per year. Other cost variations are introduced by the types of paper acquired, the source of business (direct versus indirect), and the number of branches in which instalment loans are processed.[15]

The nature of the market served may influence revenues and costs more than the size of the bank. Large banks (deposits over $50 million) are generally located in large cities. The functional cost analysis of 61 banks with deposits in excess of $50 million in 1965 shows that, in comparison with smaller banks, they receive a smaller gross yield on direct instalment loans (8.8 percent versus 9.1 percent) and have a lower percentage of qualified loan applicants (83.1 percent versus 88.9 percent). This is understandable in view of the more intense rate competition and the concentration of low-income groups in metropolitan areas. But a small bank located in a large city is also subject to these economic forces. Other things being equal, it may be more appropriate to compare the urban small bank's average income and expenses with large city banks than with small country banks. In short, comparison of breakeven loans of one bank with average results for a group of banks may obscure more than it reveals.

IV. *Summary*

Interviews with instalment lenders and review of published statements suggest that calculation and publication of breakeven loan figures are most effective as a goad for management to study the profitability of credit services offered and to reexamine its pricing structures. If this is the only result data on breakeven loans are probably helpful. However, the analysis has suggested that pricing and lending decisions based on breakeven analysis may be incorrect. Correct decisions could be made without the use of breakeven analysis. On balance, the creation and publication of breakeven figures appears to offer a chance for more harm than good.

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[14] George Benston, "Economies of Scale and Marginal Costs in Banking Operations," *The National Banking Review,* 2, June 1965, pp. 527-530.

[15] George Benston, "Branch Banking and Economies of Scale," *Journal of Finance,* 20, May 1965, pp. 312-331. Paul F. Smith, *Consumer Credit Costs 1949-59,* Princeton: Princeton University Press, 1964, pp. 79-85.

None of the comments are intended as criticisms of the functional cost analysis program. On the contrary, as a first step toward multivariate cost analysis for commercial banks, the program represents a worthwhile contribution to an industry notably deficient in this area.[16]

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[16] For an example of multivariate cost analysis, see Eugene E. Comiskey, "Cost Control by Regression Analysis," *Accounting Review,* 41, April 1966, pp. 235-238.

► OLIN S. PUGH and OLIVER G. WOOD, JR.

Bank Service Charges in the South

The role of service charges in bank income has declined during the past decade. In 1955, these charges as a percentage of total member bank income stood at 5.1 percent; by 1965, this percentage had fallen to 4.7 percent.[1] In April 1966, the authors conducted a survey of service charge practices among 50 banks in 20 selected Southern cities.[2] The banks surveyed, with two exceptions, each had assets in excess of $100 million on June 30, 1965. Average asset holdings of these banks amounted to $353 million.

The primary purposes of this article are: (1) to report the wide variation found in the basic components of bank service charges; and (2) to show the diversity of average total service charges for typical personal and business checking accounts.

I. *Variation Among the Basic Components of Bank Service Charges*

A. Special Checking Accounts

Thirty-four of the 50 banks which submitted service charge schedules offer special checking accounts to their customers. The principal feature of these accounts is that no minimum balance is required. The charge per check, however, is usually much higher than that for regular checking accounts.

Table 1 shows that almost 90 percent of the banks levy a charge of 10 cents per

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[1] "Member Bank Income, 1965," *Federal Reserve Bulletin*, 52, June 1966, p. 786.

[2] Thirty-five of the 50 banks surveyed are reserve city banks. See Table 4 for a list of the 20 cities.

TABLE 1

Charges on Special Checking Accounts, 20 Selected Southern Cities April 1966

Number of banks	Charge per check
30	10¢
1	11
1	11¼
2	15
34	
	Maintenance charge
18	no charge
1	15¢
7	25
8	50
34	

Source: Survey by authors.

check written on special checking accounts. Moreover, the two banks which charged 15 cents per check indicated that they would lower their charge to 10 cents within the near future.

It is not surprising that over half of the banks do not have a maintenance charge on special checking accounts, since a decade ago such charges were uncommon. It seems clear, in view of the costs involved in preparing statements, that those banks without at least a nominal maintenance charge on their special checking accounts are not meeting their costs.

B. Regular Checking Accounts

Of the 48 banks providing usable replies concerning regular checking accounts, 25 indicated that they employ either a simplified or a complete form of analysis to calculate service charges. All but three of the 25 banks use a simplified analysis whereby earnings and expenses are considered for each account; however, these banks take advantage of such shortcuts as limiting the charges to a few items and using not more than two rates. In most instances, these plans use tables to determine the net charge. Only three banks attempt to perform a complete analysis for each account under which most, if not all, of the various items are considered and an individual rate is applied to each. Earnings credits at these banks are allowed on the basis of average balance less float and/or reserve deductions.

The second most popular way of calculating service charges on regular checking accounts might be termed the "free check" method, which is used by 20 banks. The principal feature of this plan is that "free" checks are provided in consideration for the maintenance charge and/or as allowances on balances above specified minimums. Activity charges are placed on items in excess of the "free" allowances.

Finally, three banks use a plan whereby a maintenance charge is applied to all accounts with a minimum balance below $500, or with an average balance below $1000. A charge of 7 cents per check is levied in all cases.

Schedules of charges and credits at the 25 banks employing analysis plans are shown in Table 2. Of these banks, 11 have a maintenance charge of 75 cents and 9 levy a charge above this amount. Less variation is found in the charge per check paid. A fee of either 5 or 6 cents per check is used by 80 percent of the banks. Earnings credits, allowed under the analysis plans for regular checking accounts, range from 10 to 25 cents per $100 of balance per month; 40 percent of the banks allow 20 cents per month per $100, or 2.40 percent on an annual basis.

Since the yield on 91-day Treasury bills averaged above 4.5 percent during the first half of 1966, it is evident that most of the larger Southern banks do not attempt to keep the earnings allowances paid on their regular checking accounts in line with current money market rates. One reason for this is that credits are granted usually on balances without deductions for reserve and/or float. Table 2 reveals that 22 of the 25 banks using

TABLE 2

Charges and Allowances for Personal Checking Accounts, 20 Southern Cities April 1966

Number of banks	Maintenance charge
1	25¢
2	50
2	65
11	75
1	80
1	85
1	90
1	96
5	1.00
25	
	Charge per check paid
1	3¢
11	5
9	6
1	7
3	10
25	
	Earnings credit (per $100 of balance)
1	10¢
3	12
2	15
1	16.5
1	18
10	20
1	24
6	25
25	
	Bases for earnings allowance
11	minimum ledger balance
11	average ledger balance
1	average ledger balance less reserves
2	average loanable balance
25	

Source: Survey by authors.

analysis plans do not make such deductions, most probably because of the prohibitive bookkeeping cost and difficulty of explaining the deductions to their customers. Another possible reason for the relatively low earnings allowances paid on regular checking accounts may be traced to the fact that many banks choose not to recover full costs of servicing these accounts through explicit or direct service charges. Those banks apparently prefer to maintain low charges per item accompanied by low earnings allowances for balances held.[3]

C. Business Checking Accounts

The range of charges and allowances on business checking accounts is greater than that for personal checking accounts. Table 3 indicates that 14 of the 43 banks using analysis plans for their business accounts have a 75 cent maintenance charge, while 15 banks do not levy such a charge. Many banks have traditionally undercharged for business services, frequently offering them at cost or even below cost. In other cases, business services have been offered at no direct cost to the customer.[4]

Slightly over one-half of the banks charge 5 cents per check paid, while slightly more than one-third of the banks levy 6 cents per check. On transit items deposited, about 50 percent of the banks charge 3 cents per item, while approximately 30 percent have a per item charge of 2 cents. Three-fourths of the banks do not have a charge per deposit ticket submitted.

A comparison of these charges with the actual cost of providing business checking accounts, as revealed in a 1956 American Bankers Association survey of a representative group of large banks, indicates that current service charges at many Southern banks are below national-average and median-cost figures of a decade ago.[5] In the 1956 ABA study, the follow-

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[3] Donald R. Hodgman discussed some of the problems in pricing bank services in his recent book, *Commercial Bank Loan and Investment Policy*, Champaign, Illinois: University of Illinois, 1963, pp. 135-138.

[4] See the general discussion by James P. Furniss and Paul S. Nadler, "Should Banks Reprice Corporate Services?," *Harvard Business Review*, 44, May-June 1966, pp. 95-105.

[5] George R. Amy, "What Yardstick for Service Charge Income?," *Banking*, 51, January 1959, pp. 37, 125.

TABLE 3

Charges and Allowances on Business Checking Accounts, 30 Southern Cities April 1966

Number of banks	Maintenance charge
15	no charge
1	.50¢
14	.75
1	.85
1	.90
10	1.00
1	1.25
43	
	Charge per check paid
1	4¢
22	5
15	6
4	7
1	7½
43	
	Transit items deposited
1	no charge
13	2¢
1	2¼
3	2½
21	3
3	4
1	5
43	
	Charge per deposit ticket
32	no charge
4	5¢
4	6
3	7
43	
	Earnings credit allowance rate
1	1.50 percent
5	2.00
5	2.40
4	2.50
4	2.75
1	2.85
11	3.00
1	3.125
3	3.50
1	3.60
4	4.00
3	4.50
43	
	Reserve requirements deducted (after float) to calculate "average loanable balance"
4	no deduction
5	16.5 percent
1	17
1	18
20	20
1	21
5	21.5
1	22
5	25
43	

Source: Survey by authors.

ing individual costs were discovered: maintenance per month (median)—61.5 cents, checks paid (average)—2.1 cents, and deposit tickets (median) — 15.5 cents.[6] In view of the marked increase in salaries and other costs at banks during the past decade, and despite the technological improvements during the period, it seems reasonable to expect that current service charges at many Southern banks are below the cost of providing checking account services.[7]

As shown in Table 3, the earnings credit allowed businesses ranges from 1.5 to 4.5 percent, with the largest number of banks (11) allowing 3 percent. The earnings credit is based by all but four banks on the average loanable balance, which is defined as the amount available after deductions for float and reserves. The percentage deducted for reserves ranges from 16.5 to 25 percent,

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[6] *Ibid.*, p. 37. A 1957 survey by the ABA's Country Bank's Operations Commission of banks with assets under $7.5 million revealed that the following rates were charged by the largest number of banks: maintenance, per month—50 cents, checks paid—3 cents, transit items—3 cents, and deposit tickets—5 cents. *Ibid.*, p. 125.

[7] A statewide survey of small to medium-sized banks in Arkansas revealed that item costs in banking are considerably higher than bank officials believed. Similar surveys are now underway in other states. Summary results of the Arkansas study may be found in *Burroughs Clearing House*, 50, April 1966, pp. 38-39, 75-80.

TABLE 4

Average Bank Service Charges on Small-sized Personal Checking Accounts, 20 Southern Cities April 1966

City	Number of banks included	Average customer charge
Richmond	2	$2.75
Atlanta	4	2.40
Miami	2	2.33
New Orleans	4	2.15
Little Rock	2	2.03
Tampa	2	1.95
Norfolk	3	1.75
Chattanooga	2	1.75
Jackson	1	1.75
Birmingham	2	1.70
Mobile	1	1.67
Dallas	2	1.63
Charlotte	3	1.60
Nashville	3	1.60
Knoxville	2	1.55
Louisville	3	1.55
Memphis	3	1.49
Houston	2	1.43
Jacksonville	3	1.25
Shreveport	1	1.15

Assumptions: average balance — $225
minimum balance — $ 75
checks written — 20
number of deposits — 4
float (if used) — 10 percent of average balance

Source: Survey by authors.

with 20 banks employing a deduction of 20 percent. Most of the banks subtracted an amount greater than the legal reserve requirement in order to allow for working cash reserves.

II. *Variation Among Average Total Customer Service Charges*

The variation among service charges in the 20 Southern cities may be seen more clearly by a comparison of the average total customer service charges for typical regular and business checking accounts.

A. Regular Checking Accounts

Average charges for typical small and medium-sized personal checking accounts are listed in Tables 4 and 5. For the small checking account, charges range from $1.15 in Shreveport to $2.75 in Richmond, with an average charge at the 47 banks of $1.80. For the medium-sized checking account, the charges range from 40 cents in Shreveport to $2.91 in Atlanta, with an average charge for all banks of $1.54.

The relative ranking of charges by city is essentially the same for the small and medium-sized accounts, with the exception of the banks in Richmond and Mobile, whose charges on the medium-sized accounts are considerably lower. A comparison of the charges on the small-sized accounts with those on the medium-sized accounts revealed that the charges on the medium-sized accounts are greater at 12 banks, smaller at 29 banks, and

TABLE 5

Average Bank Service Charges on Medium-sized Regular Checking Accounts, 20 Southern Cities April 1966

City	Number of banks included	Average customer charge
Atlanta	4	$2.91
New Orleans	4	2.50
Miami	3	2.18
Tampa	2	1.95
Little Rock	2	1.95
Chattanooga	2	1.90
Birmingham	2	1.70
Jackson	1	1.65
Louisville	3	1.51
Memphis	3	1.45
Charlotte	3	1.42
Dallas	2	1.20
Houston	2	1.14
Richmond	2	1.13
Nashville	3	1.08
Knoxville	2	.96
Norfolk	3	.96
Mobile	1	.53
Jacksonville	3	.50
Shreveport	1	.40

Assumptions: average balance — $625
minimum balance — $325
checks written — 30
number of deposits — 4
items deposited — 6
float (if used) — 10 percent of average balance

Source: Survey by authors.

identical at 6 banks. Since the greater cost of servicing the medium-sized account reflects essentially the cost of processing 10 additional checks, it is difficult to understand why the charges on these accounts at 18 banks are equal to, or greater than, the charges on the small accounts, in view of the assumed higher average balance of $400, and higher minimum balance of $250.

In comparison with the average service charges at the largest Eastern, Midwestern, and Western banks, those at Southern banks are relatively low. In 1964, Alexander Robichek and Charles Haley conducted a survey of bank service charges at the nation's 50 largest banks.[8] Using the service charge components as reported by Robichek and Haley and the assumptions stated in the footnotes to Tables 4 and 5 in this article, service charges were calculated for 9 Eastern, 14 Midwestern, and 10 Western banks.[9] As shown in Table 6, for the small-sized checking account, only charges at the Midwestern banks are lower than those at Southern banks.[10] For the medium-sized account, the lowest charges are at the Southern banks. Only at the Southern banks are the charges on the medium-sized checking account lower than those on the small-sized account.

TABLE 6

Average Monthly Service Charge of Selected Banks, by Region

	Small-sized account	Medium-sized account
East	$2.32	$2.53
South	1.80	1.54
Midwest	1.74	1.83
West	2.10	2.33

Assumptions: See Tables 4 and 5

TABLE 7

Average Bank Service Charges on Business Accounts, 20 Southern Cities April 1966

City	Number of banks included	Average customer charge
Tampa	1	$13.59
Richmond	2	12.69
Miami	3	12.38
Jacksonville	3	11.33
Norfolk	3	10.68
Little Rock	3	10.32
Birmingham	2	10.29
Mobile	1	10.20
New Orleans	4	9.85
Louisville	3	9.69
Dallas	2	9.67
Knoxville	1	9.45
Atlanta	3	9.26
Memphis	3	8.82
Charlotte	3	8.18
Jackson	1	8.08
Shreveport	1	7.96
Houston	2	7.35
Chattanooga	1	6.95
Nashville	3	6.16

Note: Charges are included for two additional banks not using analysis plans and whose service charge components are not shown in Table 3.

Assumptions:
average balance — $2,025
minimum balance — $ 525
checks written — 100
number of deposits — 15
number of checks deposited (50 "on us" items included) — 250
float — $ 500

Source: Survey by authors.

B. Business Accounts

Average total service charges on business accounts at 45 Southern banks are shown in Table 7. Charges range from $6.16 in Nashville to $13.59 in Tampa, with an average charge at the 45 banks of $9.69.

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[8] Alexander A. Robichek and Charles W. Haley, "Bank Service Charges: A Comparative Analysis," *Burroughs Clearing House*, 49, January 1965, pp. 34-35, 77-78.

[9] Data for 36 banks were published by Robichek and Haley. However, because of the nature of the assumptions used for the Southern banks, it was possible to calculate charges for only 33 banks.

[10] While it is recognized that the service charges shown for the non-Southern banks in Table 6 were those in effect in 1964, it is believed that a comparison of these charges with those in effect in 1966 at Southern banks is still meaningful. Although maintenance and per check charges at most of the non-Southern banks have undoubtedly increased since 1964, earnings credits also have risen sharply, which would tend to offset most, if not all, of the increase in charges. At any rate, charges shown for the non-Southern banks are understated.

Although a complete explanation for the wide range of charges on business accounts is beyond the scope of this article, it seems highly unlikely that such an explanation would be based primarily upon cost differences among the cities. To be sure, the costs of servicing accounts vary from bank to bank and from city to city, but it is doubtful that the true costs vary as widely as the differing customer charges might suggest.[11] In their replies, several bankers in cities with the higher average charges commented that they set their rates on the basis of detailed cost studies and then made appropriate adjustments to bring their overall charges into line with competition. Thus, the charges by the banks in the top 10 cities in Table 7 may be a more accurate reflection of the true cost of servicing business checking accounts than those listed for the remaining banks.

III. *Conclusion*

This survey has revealed considerable variation in the components of service charges at Southern banks and in the average total bank service charges among Southern cities. Perhaps a primary reason for such diversity is that many banks lack data on the total cost of providing and servicing checking accounts. One consequence of this may be a failure to recover the full costs of checking account operations.

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[11] Business customers are purchasing a package of banking services, including interest rates on loans, balance requirements, and others, and the cost of the package may not be revealed by service charges on accounts. Cost data are not readily available to any outside analyst of bank operations. Indeed, adequate cost data is frequently unavailable within the banking organization itself. One result may be that "unrealistic" service charges may prevail in a bank and are compensated for by other charges in the total customer relationship. This may explain the finding in the New York study that service charges on checking accounts were higher in New York City than in upstate banks, while the opposite was true for most other banking services. See *Branch Banking, Bank Mergers and the Public Interest,* New York State Banking Department, 1964.

► JACK R. VERNON

Competition for Savings Deposits: The Recent Experience

During the first decade following World War II, the commercial bank share of total savings of households in commercial banks and savings and loan associations (S & Ls) declined sharply.[1] This decline, which continued during the first part of the second postwar decade at a somewhat diminished pace, halted recently. During 1962 through 1965, the share of commercial banks remained essentially constant.

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This paper discusses the factors which contributed to this change in trend, and assesses the present comparative strengths of commercial banks and S & Ls in markets for savings. The role of mutual savings banks, which are less important in terms of total savings, and are geographically concentrated in the Northeast, is not considered.

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[1] Much attention was accorded this in the literature. See David and Charlotte Alhadeff, "The Struggle for Commercial Bank Savings," *Quarterly Journal of Economics*, LXXII, February 1958, pp. 1-22; Joseph Aschheim, "Commercial Banks and Financial Intermediaries: Fallacies and Policy Implications," *Journal of Political Economy*, LXVII, February 1959, pp. 59-71; Deane Carson, "Bank Earnings and the Competition for Savings Deposits," *Journal of Political Economy*, LXVII, December 1959, pp. 580-588; J. G. Gurley and E. S. Shaw, "Financial Aspects of Economic Development," *American Economic Review*, XLV, September 1955, pp. 515-538. Paul M. Horvitz comments on several of these articles and analyzes bank earnings on time deposits in Section V of his study paper for the Commission on Money and Credit, which appears in *Private Financial Institutions*, Englewood Cliffs, N.J.: Prentice-Hall, 1963.

TABLE 1

Spread between Returns to Savers by S & Ls and Commercial Banks, and Change in Percent of Savings of Households in Banks and S & Ls, 1946 through 1964

	Savings of Households in Banks and S & Ls* (billions)	Percent in Banks	Change in Percent in Banks	Spread Between Returns to Savers in S & Ls and Banks	Returns to Savers in S & Ls †	Returns to Savers in Banks ‡
1945	34.5	78.55	—	—	—	—
1946	39.3	78.12	− .43	.0156	.0240	.0084
1947	41.7	76.50	−1.62	.0143	.0230	.0087
1948	43.2	74.54	−1.96	.0139	.0229	.0090
1949	44.8	72.10	−2.44	.0143	.0234	.0091
1950	46.3	69.76	−2.34	.0158	.0252	.0094
1951	49.8	67.67	−2.09	.0155	.0258	.0103
1952	55.6	65.47	−2.20	.0154	.0269	.0115
1953	61.7	63.05	−2.42	.0157	.0281	.0124
1954	68.7	60.26	−2.79	.0155	.0287	.0132
1955	75.2	57.31	−2.95	.0156	.0294	.0138
1956	82.4	54.98	−2.43	.0145	.0303	.0158
1957	92.4	54.65	− .33	.0118	.0326	.0208
1958	103.8	53.76	− .89	.0117	.0338	.0221
1959	114.0	52.11	−1.65	.0117	.0353	.0236
1960	124.3	50.04	−2.07	.0130	.0386	.0256
1961	139.3	49.10	− .94	.0119	.0390	.0271
1962	158.9	49.53	+ .43	.0090	.0408	.0318
1963	177.9	48.68	− .85	.0086	.0417	.0331
1964	196.6	48.22	− .46	.0077	.0419	.0342
1965	216.6	49.08	+ .86	—	—	—

* Board of Governors of the Federal Reserve System, **Flow of Funds, Assets and Liabilities, 1945-65.**

† Ratios of dividends to savers to average savings capital for members of the Federal Home Loan Bank System. Federal Home Loan Bank Board, **Combined Financial Statements.**

‡ Ratios of interest payments on time and savings deposits to average time and savings deposits, federally-insured commercial banks. Federal Deposit Insurance Corporation, **Annual Report.**

I. *The Price Factor*

Table 1 suggests that the decline in the spread between returns paid to savers by S & Ls and commercial banks was the principal factor accounting for the change in the trend of the bank share. During 1947 through 1955, when the bank share was declining sharply, this spread was relatively constant. During 1956 through 1961, when the spread narrowed, the rate of decline in the bank share diminished significantly. During 1962 through 1965, when the spread declined to less than one percentage point, the decline in the bank share halted.

A regression of the change in the commercial bank share (S) and the spread (P), using the annual observations for 1947 through 1964 from Table 1, tends to confirm this view. The result, equation (1), indicates that the variation in spread explains approximately three-quarters of the variation in the change in the bank share.

$$(1) \qquad S = \underset{(.00594)}{.024575} - \underset{(.44464)}{3.14253}(P)$$

$$\overline{R} = .8615$$

$$\overline{R}^2 = .7422$$

$$\text{F-value} = 49.9502$$

$$\text{Durbin-Watson coefficient} = 1.66125$$

The year 1946, the first postwar year, is excluded in these considerations. The data for this year appear to reflect the influence of nonprice factors, which caused a change in the trend of the bank share at the end of World War II. David and Charlotte Alhadeff have thoroughly examined this earlier change.[2] Noting that the bank share increased during World War II, though the spread between returns paid by S & Ls and banks was greater during the War than following it, they argued that savers, affected by rising incomes and accumulations of liquid assets, were more willing to bear risk in savings accounts after the War, and shifted toward the higher-yielding S & L shares, where risks were greater. The strong relative performance of banks during the War also may reflect the influence of the rapid expansion during those years of a newly-introduced, fixed-value redeemable claim, the U.S. savings bond, which possibly was more highly substitutible with S & L shares than with the bank savings deposits.

II. *Factors in the More Effective Price Competition of Banks*

The more effective price competition for savings by commercial banks during the second postwar decade was the product of several factors. Important among them were changes in the regulatory environment, a relative decline in home mortgage interest rates, and acceptance of greater credit risks by banks on assets corresponding to savings deposit funds.

A. REGULATORY CHANGES

Several changes in the regulatory environment, beneficial to the commercial bank competitive position, occurred during the second postwar decade. One very important change was significant reductions in reserve requirements against time and savings deposits for member banks of the Federal Reserve System. These banks accounted for 80 percent or more of time and savings deposits in all commercial banks throughout the postwar period. During the first postwar decade, the reserve requirements on savings deposits varied between 7½ percent and 5 percent. During the second postwar decade, these requirements were lowered to 4 percent, and, more important, beginning with late 1960, member banks were permitted to count all vault cash as reserves. S & Ls have been generally free of requirements as to nonearning-asset reserves throughout the postwar period.

We can estimate the effect of this change in reserve requirements on the spread between returns paid to savers by S & Ls and member banks from 1955 through 1964, by computing the amount by which returns to time and savings deposits would have been lowered for 1964 if member banks had been subject in that year to the reserve requirements of 1955. The change in the spread was .0086 for member banks, compared to .0079 for all commercial banks. Let us assume that nonearning-asset reserves for member banks had equaled 7.75 percent, rather than 4 percent, of time and savings deposits during 1964, that the additional reserves were secured through a reduction in holdings of U.S. securities, and that the reduced interest income was matched by reductions in interest payments on time and savings deposits. (The 7.75 percent represents 5 percent in reserve deposits at Federal Reserve banks plus 2.75 percent in vault cash, estimated from the "vault cash" holdings of S & Ls for 1964.) The change in reserve requirements accounts, on this basis, for approximately .0014 of the .0086 by which the spread between returns to savers paid by S & Ls and member banks declined from 1955 through 1964.

Commercial banks also benefited from a reduction in the preferential tax treatment accorded to S & Ls. Commercial banks have paid federal income taxes on the same basis as other firms throughout the postwar period, with the exception that since 1947 they have been permitted relatively modest tax-exempt allocations of net income to loss reserves. In addition, as financial firms, they have benefited from tax exemption of interest income earned on state and local government obligations. S & Ls, by contrast, paid only negligible amounts of federal income taxes prior to 1963. They first became subject to federal income taxes in 1951, but until 1963 they were permitted tax exemption on virtually all allocations to reserves and undivided profits. This meant that almost all net income was tax exempt, since most S & Ls were mutual rather than stock organizations.

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[2] David and Charlotte Alhadeff, *op. cit.*

Beginning with 1963, the amount of net income that mature S & Ls were able to transfer to reserves and undivided profits on a tax-exempt basis was significantly reduced. As a result, the ratio of federal income tax payments to net income for S & L members of the Federal Home Loan Bank System, which equaled .01525 for 1955 and .00400 for 1962, rose to .14177 for 1964.

We can estimate the effect of this tax change on the spread between returns to savers paid by S & Ls and banks from 1955 through 1964, as the amount by which returns to savers for 1964 could have been raised if S & Ls had paid federal income taxes in that year at the rate paid in 1955, and had placed the additional after-tax income in returns to savers. On this basis, the tax change accounts for about .0013 of the .0079 by which the spread declined from 1955 through 1964.

Commercial banks realized modest additional benefits from changes which occurred in 1954 and 1964 in the methods permitted for computing tax-exempt transfers of income to loss reserves.

The competitive position of commercial banks benefited also from liberalizations in restrictions on investments in conventional mortgage loans by national banks. Prior to late 1955, national banks were prohibited from investing in low-downpayment, long-term conventional mortgage loans, on which returns net of lending costs have been somewhat higher than those available in most of the investment categories available to commercial banks, including federally-supported mortgage loans. National banks were not permitted to invest in conventional mortgage loans with loan-to-value ratios exceeding 60 percent and terms exceeding 10 years, and even then the amount of such loans could not exceed 60 percent of time and savings deposits or the amount of capital, whichever was greater.

Since late 1964, the date of the most recent liberalization, national banks have been permitted to invest in conventional mortgage loans with loan-to-value ratios of no more than 80 percent and maturities of no more than 25 years. Such loans have been permitted to equal 70 percent of time and savings deposits. The effect of this factor on changes in the spread between 1955 and 1964, however, was probably small. The percentage of time and savings deposits in conventional mortgage loans for all banks has remained modest, declining from 15.1 at the end of 1955 to 14.8 at the end of 1964. The failure of this percentage to expand may be due as much to the relative decline in mortgage interest rates during recent years as to low preferences of national banks for such loans.

Average loan-to-value ratios and maturities on conventional mortgage loans by national banks probably have increased. Unfortunately, data availability does not permit analysis of this factor.

There have also been changes in the restrictions placed on the returns paid to savers by commercial banks and S & Ls. It appears, however, that any significant change was confined to the year 1965. It is true that ceilings on returns to savers by banks were raised on several occasions in the period 1956-1964. These increases, however, only matched the rise in interest rates in general, as is apparent from Table

TABLE 2

Yield on U.S. Bonds, and Ceilings on Returns to Time and Savings Deposits by Commercial Banks

	Yield on U.S. Bonds (per cent)	Ceilings on Bank Returns to Time and Savings Deposits* (percent)						
		Savings Deposits		Other Time Deposits				Date of Change
		under one year	over one year	0 to 3 mo.	3 to 6 mo.	6 to 12 mo.	over 12 mo.	
1946	2.19	2½	2½	1	2	2½	2½	Jan. 1, 1946
1947	2.25	2½	2½	1	2	2½	2½	
1948	2.44	2½	2½	1	2	2½	2½	
1949	2.31	2½	2½	1	2	2½	2½	
1950	2.32	2½	2½	1	2	2½	2½	
1951	2.57	2½	2½	1	2	2½	2½	
1952	2.68	2½	2½	1	2	2½	2½	
1953	2.94	2½	2½	1	2	2½	2½	
1954	2.55	2½	2½	1	2	2½	2½	
1955	2.84	2½	2½	1	2	2½	2½	
1956	3.08	2½	2½	1	2	2½	2½	
1957	3.47	3	3	1	2½	3	3	Jan. 1, 1957
1958	3.43	3	3	1	2½	3	3	
1959	4.07	3	3	1	2½	3	3	
1960	4.01	3	3	1	2½	3	3	
1961	3.90	3	3	1	2½	3	3	
1962	3.95	3½	4	1	2½	3½	4	Jan. 1, 1962
1963	4.00	3½	4	1	4	4	4	July 17, 1963
1964	4.15	4	4	4	4½	4½	4½	Nov. 24, 1964
1965	4.21	4	4	5½	5½	5½	5½	Dec. 6, 1965

* Board of Governors of the Federal Reserve System, **Federal Reserve Bulletin, Supplement to Banking & Monetary Statistics.**

2, where the yield on U.S. bonds serves as the indicator of the general level of interest rates. The conclusion that these increases contributed to a decline in the spread during this period would be justified only if the rates stood higher, relative to the U.S. bond yield, than during the period 1946-1955.

It does appear that changes in restrictions on returns to savers affected the decline in the spread during 1965. In that year, the Federal Home Loan Bank Board instituted a policy of denying loans for purposes of expansion to member institutions which raised returns to savers above levels prescribed by the Board. In addition, the Board placed ceilings on returns to savers paid by federally-chartered associations which participated in plans permitting different returns on various accounts. Prior to 1965, S & Ls had been generally free from restrictions on returns to savers.

Moreover, in late November 1964, the Federal Reserve Board raised to 4½ percent the ceiling on the return which member banks were allowed to pay on time certificates of deposit with maturities of more than 90 days. This rate was appreciably higher, relative to the yield on U.S. bonds, than was the case at the end of the first postwar decade. In December 1965, this ceiling was raised to 5½ percent and extended to the shorter maturities. The ceiling on returns to regular savings deposits remained at 4 percent through the end of 1965, but certificates of deposit were issued in small denominations, and appear to have attracted significant amounts of savings from households by the end of 1965.

TABLE 3

Yields on Selected Long-Term Securities, 1955 through 1964

	Conventional Home Mortgage Loans*	FHA Insured Home Mortgage Loans	U.S. Bonds†	State and Local Government Bonds†	Corporate Bonds†
1955	.0516	.0464	.0284	.0218	.0306
1956	.0534	.0479	.0308	.0251	.0336
1957	.0583	.0542	.0347	.0310	.0389
1958	.0572	.0549	.0343	.0292	.0379
1959	.0593	.0571	.0407	.0335	.0438
1960	.0624	.0618	.0401	.0326	.0441
1961	.0599	.0581	.0390	.0327	.0435
1962	.0593	.0563	.0395	.0303	.0433
1963	.0582	.0547	.0400	.0306	.0426
1964	.0580	.0545	.0415	.0309	.0440
1965	.0581	.0545	.0421	.0316	.0449
1965 less 1955	.0065	.0081	.0137	.0098	.0143

* U.S. averages, based on FHA field office opinions. The data were provided by the Division of Research and Statistics, Federal Housing Administration.

† **Federal Reserve Bulletin.** The series for U.S. bonds are averages of daily figures for bonds maturing or callable in 10 years or more. The series for state and local government bonds and corporate bonds are Moody's Investors Service series for Aaa rated securities.

B. Relative Decline in Home Mortgage Interest Rates

As shown in Table 3, interest rates on home mortgage loans, especially conventional home mortgage loans, declined relative to interest rates in general during the second postwar decade. This was perhaps the most important factor in the more effective price competition for savings by banks.

A rough approximation of the effect of this factor from 1955 through 1964 is the amount by which S & L rates for 1964 could have been higher if the yield on their mortgage portfolios had increased as much as did yields on long-term securities in general. As the estimator of the latter, we may use the yield on the U.S. securities portfolio of mutual savings banks. This portfolio was largely in long- and intermediate-term securities, with U.S. bills and certificates accounting for no more than 6.3 percent during the period. The yield on that portfolio rose by .0112, as contrasted with an increase of .0080 in the case of S & Ls. If S & Ls had earned the higher rate and passed it on to savers, returns for 1964 would have been higher by .0031. The .0031 figure actually understates the effect of the relative decline in home mortgage interest rates, since there was also, apparently, an accompanying increase in the average risk quality of mortgages held. Table 4 reveals a shift within the portfolio from federally-supported mortgages to conventional mortgages.

The relative decline in home mortgage interest rates during the second postwar decade seems to have been the result principally of changes in the demand for home mortgage funds. Demographic factors of a temporary nature appear to have been of major importance. The low birth rates during the 1930's adversely affected the demand for home mortgage funds in the decade 1955-1965. This effect has recently been reversed because of the higher birth rates which occurred during the 1940's.

C. Acceptance of Increased Credit Risk

The remainder of the decline in the spread between returns to savers paid by S & Ls and commercial banks appears to

TABLE 4

Percent of Financial Assets of Commercial Banks and S & Ls in Major Asset Categories at Year End, Selected Years

	1955	1958	1961	1964
Commercial Banks*				
Member bank reserves, including vault cash	10.8	9.4	8.1	6.9
Interbank deposits	8.2	7.9	7.0	5.8
U.S. Government securities	31.5	30.1	26.4	20.5
State and local government bonds	6.3	7.2	7.8	10.3
Corporate bonds	.8	.6	.3	.3
Loans	38.9	41.4	46.3	51.8
Bank loans, n.e.c.	21.0	22.4	24.8	27.4
Mortgage loans	10.3	11.0	11.6	13.4
Federally-supported mortgages	6.5	6.7	6.8	7.6
Conventional mortgages	3.8	4.3	4.8	5.8
Consumer credit loans	6.5	6.9	8.2	9.0
Other loans	1.1	1.1	1.7	2.0
Security credit	2.5	2.0	2.4	2.6
Miscellaneous financial assets	.9	1.2	1.7	1.7
Savings and Loan Associations*				
Demand deposits and currency	3.7	3.3	2.6	2.3
U. S. Government securities	6.6	7.6	6.9	6.4
Loans	84.6	84.1	85.1	86.0
Mortgage loans	83.3	82.7	83.8	84.9
Federally-supported mortgages	19.9	16.7	13.7	9.6
Conventional mortgages	63.4	66.0	70.1	75.3
Consumer credit loans	1.3	1.4	1.3	1.1
Miscellaneous financial assets	5.0	5.1	5.4	5.2

*** Board of Governors of the Federal Reserve System, *Flow of Funds, Assets and Liabilities, 1945-65.***

be the result primarily of the acceptance of greater credit risks by commercial banks. This acceptance is reflected in Table 4. The percentage of assets in loans, where credit risk generally is higher than for other bank assets, increased in the period 1955-1964, from 38.9 percent to 51.8 percent. The comparable change in the case of S & Ls was from 84.6 percent to 86.0 percent.

III. *Competitive Strengths of Commercial Banks and S & Ls*

The competitive strength of commercial banks relative to S & Ls in markets for savings is the product primarily of three factors: an advantage possessed by banks as to returns to savers, a possible disadvantage of banks as to earnings net of lending costs on savings, and a disadvantage of banks as to capital costs.

The advantage of banks as to returns to savers can be estimated by substituting zero for (S) in equation (1) and solving the equation for (P). This yields an estimate of the spread between returns paid by S & Ls and banks at which the latter would just maintain their share of savings of households in the two types of institutions. The result is .00782, or just above three-quarters of a point.

This advantage may reflect in small measure a difference in the manner in which interest and dividend payments are made to savers by banks and S & Ls. Commercial banks ordinarily have paid interest for the full period that funds are on deposit. S & Ls most often have not paid returns to savings withdrawn prior to quarterly or semi-annual payment dates.[3] As a result, there has been a financial penalty for instant liquidity in S & L shares, except at payment dates.

It also may reflect in small measure the fact that the terms on which savings may be withdrawn are not identical for banks and S & Ls. Federally-insured, commercial-bank savings deposits can be obtained within 30 days, or slightly longer, in all eventualities. S & Ls, in most states, can delay redemption of federally-insured savings for extended periods, in cases of illiquidity. In the event of a serious fiancial crisis such as that of the early 1930's, savers in S & Ls might have to wait for considerable periods for their funds. It is doubtful, however, whether most savers have been aware of this difference in the insurance arrangements.

Primarily, the advantage held by banks probably reflects the premium assigned by savers for the convenience of one-stop banking. This is an advantage which S & Ls cannot duplicate, or materially reduce. Because the convenience premium is presumably independent of the level of return, the linear arithmetic form was used in estimating the return-to-saver advantage.

The disadvantage of banks as to earnings on savings now need not be of great consequence. Banks may earn yields net of lending costs on assets corresponding to savings accounts which approach those earned by S & Ls. Although the relative earnings position of banks has benefited greatly during recent years from the relative decline in home mortgage interest rates, recovery in these rates, and consequent lagged recovery in yields on mortgage portfolios, will probably not restore to S & Ls the earnings advantage they enjoyed during the first postwar decade. As a result of the legislative changes of the past decade, banks now may achieve a substantial specialization of their own in the profitable low-downpayment, long-term conventional home mortgage loans. They cannot equal the specialization of S & Ls in this respect, but they may approach it.

Moreover, banks are not restricted as to investments in federally-supported home mortgage loans, where interest rates have averaged less than one-third of a point below those available in conventionals during the first postwar decade. Banks also possess the option, not available to most S & Ls, of diversifying their investments over a wide range of debt securities. Most important, they may invest without restriction in consumer credit loans, where yields net of lending costs traditionally have significantly exceeded those available even in mortgages. The Federal Reserve Bank of Boston estimates that yields net of lending expenses were 5.67 percent for consumer credit loans during 1962 for 24 New England banks reporting to the Bank's Functional Cost Project, compared with 4.64 percent for mortgage loans and 4.12 percent for other loans.[4]

Member banks retain a small disadvantage as to the portion of savings accounts which must be held in nonearning assets, but, at the end of 1965, this was of small consequence. If member bank requirements as to nonearning-asset reserves against time and savings deposits had been .0263 during 1965, which was the ratio of demand deposits plus currency to savings accounts for S & Ls at the end of 1965, rather than .0400, and the difference had been placed in U.S. securities, with the earnings on these securities added to interest payments on time and savings deposits, returns on these deposits would have been higher by only .0005, or one-twentieth of a point.

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[3] The Federal Home Loan Bank Board recently instituted a regulation permitting federally-chartered S & Ls to pay, at their discretion, returns on all savings withdrawn prior to regular payment dates. See Federal Home Loan Bank Board, *Digest*, VIII, March 1966, p. 2. Prior to this, these institutions could pay returns only on those savings which had been on deposit for six months or more.

[4] Federal Reserve Bank of Boston, "Time Deposit Operating Results, 1962," *New England Business Review*, June, p. 3.

The advantage of S & Ls as to capital costs is of two sorts. First, the preferential treatment of S & Ls with respect to income taxes, while greatly reduced, remains substantial. The ratio of income taxes to net earnings after returns to savers for all S & L members of the Federal Home Loan Bank System for 1964 was 14.6 percent, which reflects the effects of the most recent tax change. The effective income tax rate for insured commercial banks for 1965, by contrast, was 35.7 percent, including an approximate adjustment for the effects of investments in tax-exempt securities.[5]

Second, most S & Ls follow the mutual form of organization. Mutual institutions do not have capital costs, in the sense of an obligation to produce returns to stockholders, as do banks and capital stock S & Ls. Their "capital costs" arise instead from their practice of maintaining approximately constant ratios of capital accounts (reserves and undivided profits) to assets and savings. Since they do not issue capital stock, they accomplish this solely by allocations of net income to capital. Their total capital costs—that is, their nontax capital costs plus their tax capital costs, with the latter a positive function of the former—therefore depend on their growth rates of assets and savings, and vary directly with them.

Should savings of households in banks and S & Ls grow at the rate which has prevailed for the United States as a whole during recent years, the mutual S & Ls would have significant capital cost advantages relative to banks. The ratio of capital costs per year to average capital accounts for banks, estimated as the average of annual observations of ratios of the sum of retained earnings and cash dividends to average capital amounts for insured commercial banks during 1956 through 1965, is .1584. This figure is inflated by the estimated effective income tax rate for insured banks for 1965, of 35.7 percent. If federally-chartered S & Ls, all of which are mutuals, had incurred capital costs at this rate during 1964, and had possessed a ratio of average capital accounts to average assets in that year equal to the 1965 figure for insured commercial banks, with the increase in payments to capital subtracted from dividends to savers, and the increase in average capital accounts subtracted from average savings accounts, returns to savers would have been lower by .0052, or about one-half of a point. This is an approximation of the capital-cost advantage which accrues to mutuals just maintaining their share when savings of households in banks and S & Ls grow at rates typical of recent years. Savings in the federally-chartered associations grew at about 10.3 percent during 1964, which is slightly below the average growth (11.09 percent) of savings of households in the two types of institutions during 1956 through 1965.[6] The advantage to the mutuals is much

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[5] Where N_a is actual net income before taxes, T_a is actual income taxes, N_b is an estimate of the income before taxes which would have been realized if investments in tax-exempt securities had been placed instead in U.S. securities, and T_b is an estimate of the income taxes which would have been paid on N_b, assuming an income tax rate R_n, which equals the ratio of T_a to estimated nontax exempt income, the estimated effective income tax rate for insured commercial banks, adjusted for the effects of tax-exempt income, is computed as:

$$\frac{T_b}{N_b + [(N_a - T_a) - (N_b - T_b)]}$$

In effect, it is T_b divided by the sum of N_b and the gain in net income realized as a result of the investments in tax-exempt securities.

[6] In addition, the ratio of capital to savings declined slightly during 1964, from .08097 to .08064. If the capital to savings ratio had been maintained exactly at .08097, returns to savers would have been lower by .00474, still about one-half of a point.

greater in areas where deposit-type savings of households grow at less rapid rates—much smaller, and even negative, where the reverse situation prevails.

Capital stock S & Ls would seem to be at a disadvantage relative to both commercial banks and mutual S & Ls at the growth rates of deposit-type savings which have prevailed in the United States during recent years. They share the return-to-saver disadvantage of the mutuals, but only the tax advantage. In fact, from 1955 through 1964, savings in these institutions grew more rapidly than savings in either the mutuals or banks. They accounted for 21.96 percent of all association assets at the end of 1964, compared to 10.54 percent at the end of 1955. The apparent explanation for this is the concentration of capital stock association growth in areas where demand for funds was such that interest rates on loans, and consequently rates of growth of deposit-type savings, were significantly greater than the national average. The rapid growth rates for savings cancelled the capital cost advantages of the mutuals in these areas, while Regulation Q rates, which were uniform nationally, and attuned to national averages for interest rates on loans, cancelled the advantages of banks. Significantly, the savings flows of the S & Ls of these areas were most adversely affected during early 1966 by the sharp increase in Regulation Q rates relative to the U.S. bond rate of late 1965, and the banks of these areas were the most aggressive in raising returns to savers to the new maximums.

It appears that the possibilities for significant advantages and disadvantages of banks relative to S & Ls are confined to the three factors: returns to savers, yields net of lending costs on assets corresponding to savings, and capital costs. There is little reason for supposing that there are significant differences in processing costs for savings accounts between the two types of institutions. Further, it may be assumed that, for the individual bank, the amount of demand deposits outstanding is independent of the return to savers.

IV. *Conclusions*

The decline of the share of commercial banks in savings of households in commercial banks and S & Ls, which proceeded at a rapid pace throughout most of the first postwar decade, and at a diminished pace into the second, halted during the past several years. More effective price competition by banks has been the primary factor in this change of trend. Regulatory changes favorable to banks, a relative decline in home mortgage interest rates, and acceptance of increased credit risks by banks in the investment of savings deposit funds have been important elements affecting the ability of banks to compete more effectively for savings on a price basis. The primary source of competitive strength of banks is the advantage they possess concerning returns to savers. This advantage appears to at least equal, for most areas, any disadvantage banks may have with respect to capital costs and yields net of lending costs on assets corresponding to savings.

► JEROME C. DARNELL

Chain Bank Ownership and Operation

A recent article in *The National Banking Review* analyzed chain banking relationships among member banks in mid-1962,[1] as determined from lists of the 20 largest stockholders of record.[2] The purpose of this article is to explore the operation and performance of these chain banks.

Questionnaires were sent to 239 bankers and bank owners, who in May 1962, held 5 percent or more of the outstanding stock in two or more member banks. There were 526 banks involved, accounting for nearly 9 percent of all member banks.[3] Replies were received from 101 respondents, but only 68 responses covering 165 member banks were usable.[4]

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[1] Jerome C. Darnell, "Chain Banking," *The National Banking Review,* 3, March 1966, pp. 307-331.

[2] U.S. Congress, House Committee on Banking and Currency, Subcommittee on Domestic Finance, *Twenty Largest Stockholders of Record in Member Banks of the Federal Reserve System,* 88th Cong., 2d Sess., Washington, D.C.: Government Printing Office, 1964.

[3] Darnell, *op. cit.,* p. 320, Tables 1 and 2.

[4] Thirty-three of the returned questionnaires were not usable. In 17 cases, the stockholder had died between the time the lists of stockholders were obtained by the Federal Reserve Board in 1962 and the mailing of the questionnaire. In nine cases, the bank owner receiving the questionnaire no longer had multiple-bank ownership. In two cases, the banks with common ownership ties have been merged. Others felt they were not qualified to answer the questions because they did not actively participate in the management of the banks.

TABLE 1

Distributions by Asset Size of Member Banks, Banks Linked by 5 Percent Ownership of One Individual, and Banks Providing Usable Questionnaire Returns, June 30, 1962 *

Amount of assets (Thousands of dollars)	Percentage of all member banks	Number and percentage of banks linked by 5 percent ownership of one individual		Number and percentage of banks providing usable questionnaire returns	
500 - 999	1.4	10	1.9	2	1.2
1,000 - 1,999	8.3	40	7.6	12	7.3
2,000 - 4,999	30.1	198	37.6	67	40.6
5,000 - 9,999	24.1	127	24.1	29	17.6
10,000 - 24,999	20.3	95	18.1	29	17.6
25,000 - 49,999	7.0	31	5.9	12	7.3
50,000 - 99,999	3.7	13	2.5	5	3.0
100,000 - 499,999	3.9	11	2.1	8	4.8
500,000 and over	1.2	1	0.2	1	0.6
Total	100.0	526	100.0	165	100.0

* First call date following collection of member bank stockholder lists.

Sources: U. S. Congress House Committee on Banking and Currency, Subcommittee on Domestic Finance, **Twenty Largest Stockholders of Record in Member Banks of the Federal Reserve System,** 88th Cong., 2d Sess., Washington, D. C.: Government Printing Office, 1964; **Rand McNally International Bankers Directory,** Final 1962 ed.; U. S. Congress, House Committee on Banking and Currency, Subcommittee on Domestic Finance, **The Structure of Ownership of Member Banks and The Pattern of Loans Made on Hypothecated Bank Stock,** 88th Cong., 2d Sess., Washington, D. C.: Government Printing Office, 1964, p. 8.

I. *Size and Distribution*

Table 1 shows that a larger proportion of the banks linked by 5 percent ownership had assets under $5 million than was generally true of member banks—47.1 percent of the former and 39.8 percent of the latter.[5]

Table 2 indicates that, of the banks covered, 127 were in unit banking states, 37 in states permitting limited area branching, and one in North Carolina, which permits statewide branching. Eighty-five percent of the systems surveyed were comprised of only two banks. (See Table 3.)

Table 4 provides a summary of the spatial characteristics of the chain systems and the relative importance of individual chains within their local market areas. For about one-half, 117 out of 239, of the chain systems, all the affiliated banks are located in the same county. Fifty chains each accounted for over 40 percent of the total deposits in the county in which they operated.

II. *Ownership Characteristics*

Fifty of the 68 respondents are either a director or an officer in each of the banks in which they own stock, and nine hold such a position in one bank—thus indicating some familiarity with operating practices. The duration of multiple-bank, common-stock ownership appears to negate the view that such ownership has been predominantly for speculative purposes. Fifty-eight of the respondents have had multiple-bank ownership for over 10 years; a few for 20 to 30 years, and one for over 50 years.

The reasons for multiple-bank ownership are summarized in Table 5. Nearly one-half of the respondents cited diversification in their personal investments as

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[5] The asset sizes of banks are those for June 30, 1962, the first call date following the collection of member bank stockholder lists.

TABLE 2

Location, Number, and Asset Size of Chain Banks Providing Usable Questionnaire Returns

State	Number	Asset size (Thousands of dollars)								
		500 to 999	1,000 to 1,999	2,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 to 49,999	50,000 to 99,999	100,000 to 499,999	500,000 and over
Alabama	6	0	0	4	0	2	0	0	0	0
Arkansas	2	0	0	1	0	1	0	0	0	0
Colorado	8	0	0	6	0	2	0	0	0	0
Florida	26	0	0	4	3	8	5	4	2	0
Illinois	23	1	2	7	5	3	3	1	1	0
Indiana	7	0	1	4	0	2	0	0	0	0
Iowa	2	0	0	1	1	0	0	0	0	0
Kansas	10	1	0	4	3	1	0	0	1	0
Michigan	4	0	0	1	2	1	0	0	0	0
Missouri	7	0	1	0	1	1	2	0	1	1
Montana	3	0	0	2	0	1	0	0	0	0
Nebraska	4	0	2	2	0	0	0	0	0	0
New Mexico	3	0	0	1	1	1	0	0	0	0
New York	6	0	0	3	1	2	0	0	0	0
North Carolina	1	0	0	0	1	0	0	0	0	0
Oklahoma	17	0	3	7	1	3	0	0	3	0
Pennsylvania	8	0	0	6	2	0	0	0	0	0
South Dakota	3	0	1	1	0	0	1	0	0	0
Tennessee	2	0	0	0	2	0	0	0	0	0
Texas	20	0	2	12	4	1	1	0	0	0
Virginia	1	0	0	0	1	0	0	0	0	0
West Virginia	2	0	0	1	1	0	0	0	0	0
Total	165	2	12	67	29	29	12	5	8	1

Sources: Table 1 and questionnaire.

TABLE 3

Number and Size of Chain Systems Surveyed, and Usable Returns

Number of member banks affiliated in a chain system	Number of chain systems surveyed	Number of usable returns
2	202	58
3	27	8
4	5	0
5	3	1
6	0	0
7	1	0
18	1	1
Total	239	68

Sources: **Twenty Largest Stockholders** and questionnaire.

the purpose. Others indicated a desire to overcome branching restrictions or to improve operating or competitive positions.

III. *Operating Policies*

The operating policies of chain banks are presented in Table 6. Only the policy of joint participation in loans was reported as currently practiced by more than one-half of the respondents. Other practices described were common loan and investment policies, greater mobility of funds, and better coordination of operations. Where coordination was not found, this fact was most frequently ascribed to lack of power or desire, or to impracticability. A majority indicated that they did not regard geographic dispersion as a barrier to coordination.

TABLE 4

Location, Number, Size of Systems, and Proportion of County Deposits Held by Chain Systems * with All Affiliated Banks Located in One County, June 30, 1962

State	Number of chain systems	Number of banks in system			Number of systems and proportion of county deposits held †				
		2	3	4	0 to 20	21 to 40	41 to 60	61 to 80	81 to 100
Alabama	2	2	0	0	0	1	0	1	0
Colorado	2	2	0	0	2	0	0	0	0
Connecticut	1	1	0	0	1	0	0	0	0
Florida	7	5	1	1	4	3	0	0	0
Idaho	1	1	0	0	0	0	0	0	1
Illinois	17	14	3	0	11	2	4	0	0
Indiana	5	4	1	0	1	0	2	2	0
Iowa	1	1	0	0	0	0	0	1	0
Kansas	1	1	0	0	0	0	1	0	0
Louisiana	1	1	0	0	0	0	0	0	1
Maine	1	1	0	0	0	1	0	0	0
Massachusetts	2	2	0	0	2	0	0	0	0
Michigan	3	3	0	0	1	0	2	0	0
Minnesota	3	3	0	0	2	0	1	0	0
Missouri	2	1	1	0	0	0	1	1	0
Montana	2	2	0	0	0	1	1	0	0
Nebraska	5	5	0	0	1	0	4	0	0
New Hampshire	1	1	0	0	1	0	0	0	0
New Mexico	3	3	0	0	0	0	1	1	1
New York	6	5	1	0	2	2	1	0	1
Ohio	4	4	0	0	0	2	2	0	0
Oklahoma	11	10	0	1	2	3	4	1	1
Pennsylvania	10	10	0	0	5	4	1	0	0
South Carolina	1	1	0	0	0	0	1	0	0
South Dakota	1	0	1	0	0	0	0	1	0
Texas	14	13	1	0	0	7	5	0	2
Virginia	3	3	0	0	0	2	0	1	0
West Virginia	4	4	0	0	0	2	2	0	0
Wisconsin	2	2	0	0	2	0	0	0	0
Wyoming	1	1	0	0	0	0	0	1	0
Total	117	106	9	2	37	30	33	10	7

* Includes only those chain systems composed of two or more member banks linked by 5 percent or more common ownership of one individual.

† "County Deposits" include deposits of commercial banks and mutual savings banks in states where mutual savings banks are located.

Sources: **Twenty Largest Stockholders; Rand McNally International Bankers Directory,** 1962 ed.; Board of Governors of the Federal Reserve System, **Distribution of Bank Deposits by Counties and Standard Metropolitan Areas,** June 30, 1962.

IV. *Advantages and Disadvantages*

The principal benefits of chain banking, in the view of the respondents, are: greater ease of loan participation; more experienced management; and better customer service.

Customers requiring larger loans have available the combined lending limits of the affiliated banks. This may attract new industrial firms, or hold existing firms which might otherwise leave. Better judgments may be made on the safety of loans, provided officials at more than one affiliated bank are consulted. Moreover, excess funds are more mobile among affiliated than among independent banks.

Chain banks, through the officials of

TABLE 5

Reasons for Multiple-Bank Ownership

Reasons for multiple-bank ownership	Number of responses	Percentage of all usable returns
Method of achieving diversification in personal investment portfolio.	29	42.6
Stock was inherited or received as a gift.	19	27.9
Most profitable investment alternative available at time of purchase.	18	26.6
Necessary because of state branching restrictions.	12	17.6
Method of insuring coordination in operating policies in order to improve the profitability and competitive position of the affiliated banks.	11	16.2
Necessary because of state holding-company restrictions.	4	5.9
Other reasons.	13	19.1

Source: Questionnaire.

TABLE 6

Suggested Advantages of Multiple-Bank Ownership

Operating policies or practices	Potentially beneficial		Currently practiced	
	Number of responses	Percentage of usable returns	Number of responses	Percentage of usable returns
Joint participation in loans too large for one bank.	53	77.9	40	58.8
Better exchange of credit information.	36	52.9	28	41.2
Sharing special equipment or specialized personnel uneconomical for one bank.	30	44.1	19	27.9
Better opportunities to seek solutions to common problems.	29	42.6	20	29.4
Establishing common loan and investment policies.	24	35.3	17	25.0
Making excess funds in one area available to another for seasonal loan demands.	20	29.4	14	20.6
Establishing a special supervisory agency to coordinate operating policies.	16	23.5	10	14.7
Engaging in joint promotional activities.	13	19.1	8	11.8
Combining or pooling reserves.	13	19.1	6	8.8
Transferring funds more easily to investment outlets.	10	14.7	6	8.8

Source: Questionnaire.

the affiliates, may have at hand greater knowledge of community and regional problems. Replacement of key personnel may also be easier.

Chain banks may undertake the provision of services that would be uneconomical for a single bank. For example, they may more readily make trust services available. The use of electronic data processing equipment may be more feasible, as well as the utilization of standardized forms and the joint purchase of supplies—all of which may produce savings which are passed on to the consuming public. Six of the respondents stated that there would be no benefit to the public if the members of a chain system continued to operate independently.

Among the potentially harmful results of chain banking, those most frequently mentioned by the respondents, were diminished competition and absentee ownership. Neither condition, however, is unique to chain banking.

The respondents differed in their comparisons of chain with branch banking. Several favored chain banking on the ground that it allowed greater local initiative in response to local interests. Others regarded chain banking as more cumbersome in operation, and likely to involve a smaller capital base.

V. *Conclusions*

Although a large majority of the responses indicated that chain banks are under centralized control and have common operating policies, many banks with ownership ties appear to operate independently. Of those with centralized control, the degree of control varies. In some cases, the results achieved approach those under branch banking. In other cases, each member of the chain retains some degree of independence in formulating operating policies.

► RICHARD ABLIN

Fiscal-Monetary Mix: A Haven for the Fixed Exchange Rate?

The recent efforts to attain domestic full employment, price stability and balance-of-payments equilibrium without abandoning fixed exchange rates or resorting to restrictions on international trade or payments, have taken two principal forms: (1) promotion of greater international liquidity; and (2) the priority assignment of monetary policy to the objective of international equilibrium and of fiscal policy to the internal objectives.

From this standpoint, the proposals for greater international liquidity seek to allow payment imbalances to persist for longer periods without compelling resort to deflation, inflation, payment restrictions or changes in exchange rates—in the hope that these imbalances will eventually be corrected by autonomous dynamic forces, or through domestic macroeconomic policies applied so gradually as to cause virtually no unemployment or price instability. There are two basic criticisms of this approach. First, dynamic changes such as those in productivity, tastes or price levels, may easily move countries away from payments equilibrium, or leave disequilibrium unaffected at the pre-existing exchange rate. Second, the resulting long-run disequilibrium may produce a perverse pattern of international capital movements (through the media of reserve shifts or credits) unrelated to marginal

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Richard Ablin, currently a member of the Research Department, Federal Reserve Bank of New York, wrote this article while Assistant Professor of Economics, State University of New York, Buffalo, New York. The author, of course, is solely responsible for the views expressed. An earlier version of this article was presented at the 1966 meeting of the New York State Economic Association at Colgate University.

productivity criteria or economic development considerations.[1]

There is somewhat more substance to the argument that increased reserves may make it possible to avert rapid deflation or inflation. However, even mild deflationary pressures over an extended period may produce, or greatly prolong, intolerable levels of unemployment, as evidenced in Great Britain during the 1920's and in the U.S. during the late 50's and early 60's.[2]

The monetary-fiscal approach has been lucidly developed by Robert A. Mundell.[3] Mundell has shown that, although increases in national income induced by easier monetary or fiscal policies produce similar increases in imports, easier monetary policy produces an additional effect in the form of increased capital exports. Thus, if international capital flows respond to changes in differential interest rates, the "adverse" balance-of-payment effect of interest rate reductions designed to combat unemployment cannot be offset by a tighter fiscal policy designed to reduce imports, without preventing the necessary rise in GNP. On the other hand, the contrary policy-mix could move the economy toward both full employment equilibrium and balanced international accounts: The improvement in the balance of payments brought about by higher interest rates would not be entirely offset by the import-inducing effect of an easier fiscal policy designed to reduce internal unemployment.

There is something of the neo-classical gold standard view in this proposal; the view that payments imbalance could and should be offset largely by short-term capital flows responding to a rise in interest rates in the deficit countries and a fall in rates in the surplus countries. There is, however, a great difference as well. In the gold standard view, capital flows would provide temporary relief for the payments imbalance until deflation in the deficit, and inflation in the surplus, country produced a more permanent cure through the movement of goods and services. In the Mundell proposal, the latter adjustment is ruled out. If, for example, a country suffers from a payments deficit and underemployment, fiscal policy would be directed to increase aggregate demand, so that neither price levels nor income are reduced. Higher interest rates alone would carry the burden of balancing international accounts through increased capital inflow or reduced outflow. The provisional cure under the gold standard is thus the "permanent" cure in the Mundell policy.[4]

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[1] Optimal capital movements will be defined as those which equalize the "marginal efficiency of investments" among countries. This concept is defined most clearly in A. Lerner's *The Economics of Control*, pp. 331-338.

[2] The recent U.S. case is especially relevant, since a country with larger reserve backing could hardly expect, under the most liberal liquidity scheme contemplated, to launch a gradual attack on a deficit. Yet, we did not succeed in avoiding either a prolongation of extremely costly unemployment, a progressive resort to quantitative and deliberate interest rate restrictions on capital exports or, despite all this, a persistent if somewhat shrunken deficit.

[3] "The Appropriate Use of Monetary and Fiscal Policy for Internal and External Stability," *International Monetary Fund Staff Papers*, IX, March 1962.

[4] Mundell does state that adoption of his solution assumes indifference to the composition of the resulting balance of payments, and that if concern exists on this score, his approach may be regarded as providing merely a short-run solution (presumably offering time for the slow application of other more traditional methods, such as a change in price levels or exchange rates). But it is difficult to see where there is room for any policy but that of waiting for favorable autonomous dynamic changes or of exchange-rate variation. Any deliberate deflation or inflation would, given the previous schedules, propensities etc. reestablish the undesired condition of "recession-deficit" or "inflation-surplus" from which the Mundell policy had provided an escape. Even the most plausible hope, that adjustment may be achieved without

A payments balance dependent upon induced private capital flows is as much in disequilibrium as one achieved through capital movements in the form of gold or reserve-currency flows or intergovernmental credit. The same argument which may be made against the prolonged financing of deficits (or accumulation of surpluses) by liquidity schemes—that it would produce a perverse pattern of capital movements—applies to the Mundell approach as well.[5]

Lack of capital mobility may permit interest rates and marginal efficiencies of investment to differ among countries because of such factors as differences in private thrift and in the capital intensity of production. It may also be argued, perhaps with some theoretical difficulty, that a fiscal-monetary mix designed to bring total saving up to a planned level in order to achieve public ambitions for economic development, is a proper determinant of relative interest rates and marginal efficiencies. This clearly cannot be said, however, of restrictions against capital flows which would directly prevent equalization of marginal efficiency, and a fiscal-monetary mix adjusted deliberately to alter differential interest rates (and domestic saving rates) to offset imbalances in international accounts amounts to an indirect variant of such measures. The result would be a separation of the pattern of international capital flows from the optimal tendency toward equalizing marginal productivity.

I. *The Investment Effect and Devices for Its Avoidance*

One of the principal arguments raised against the proposed policy is that it may preclude the use of monetary-fiscal policy to achieve the desired level of public sector saving and national investment. In answer to this objection, it has been pointed out that the investment effect of the interest rate changes required by the scheme can be offset by appropriate investment tax credits.[6] This device may create the desired quantity of domestic real investment. However, it will not function properly with respect to saving, that is, the portion of domestic investment which represents the wealth accrual or capital formation of the domestic economy.

To illustrate, picture a government facing recession, a seriously overvalued currency and a payments deficit. Assume

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unemployment in the deficit country by means of an "incomes policy" and approximate price level stability, requires that the surplus countries be willing to accept considerable inflation. Apart from being ruled out by the Mundell approach, this willingness is conspicuous by its absence.

[5] See F. A. Lutz, *The Problem of International Economic Equilibrium* (DeVries Lecture), North Holland Publishing Company, Amsterdam, 1962, pp. 51-53. Lutz's lectures were brought to my attention only after completion of this article. Much of the argument developed here, however, represents an application to the Mundell argument of the reasoning used by Lutz in criticism of a policy of financing disequilibrium through manipulation of foreign aid or "unilateral payments" (Lutz's term). As Harry Johnson has aptly stated of the proposed policy: ". . . [It is] not fundamentally designed to restore international equilibrium. Rather it is designed to induce whatever transfers of capital are necessary for financing the deficits or surpluses associated with the pursuit of full employment and price stability in an environment of disequilibrium in exchange rates to pass through the private capital accounts of the balance of payments"—and—"to relieve the strains on the international monetary system and on intergovernmental relations that financing by Central Bank accumulations of the currencies of the deficit countries or by negotiated intergovernmental capital transfers entail." "Major Issues in Monetary and Fiscal Policy," *Federal Reserve Bulletin,* November 1964, p. 1404.

[6] There is an implication that the fiscal structure, or at least tax credits, would have to be readjusted with each balance-of-payments induced shift in monetary policy.

that it adopts the Mundell policy and tries to raise its domestic interest rates enough to induce an inflow of private capital sufficient to stabilize its reserves. A special tax credit is introduced to prevent a fall in domestic real investment. But the rest of the world must still be induced to finance a larger share of this unchanged investment. It is necessary that total domestic saving decrease in order to accommodate the larger capital import or reduced capital export. Since the higher interest rate will stimulate at least some rise in private saving, public sector saving would have to be reduced or dissaving increased by an amount equal to the increase in private saving plus the required net reduction in total national saving. In extreme cases, it is possible for the required capital inflow and decrease in national saving to equal or exceed total real investment, so that the deficit country would finance none of its real capital formation and might even dissave. It is also quite possible for the deficit country to be capital intensive and relatively rich, while those induced to reduce or even reverse their capital imports from it may be developing countries with a higher marginal efficiency of investment in the absence of the deliberate manipulation of saving and interest rates for balance-of-payments purposes.[7]

II. *National Versus International Outlook on the Problem of Growth*

Capital exports or foreign investment must earn a much higher rate of return than domestic investment in order to yield an equal increment to domestic national product.[8] The positive effects on the marginal productivity and returns to the productive factors other than capital are felt abroad rather than domestically, so that the investing country receives only the share of incremental income returned to capital (and only that part not taken by foreign income taxes). Nevertheless, foreign investment carried to the unrestricted equilibrium level can add to the investing nation's income. The effect is to allow the income of the advanced nation to grow while reducing the income differential between it and the less-developed nations.

The advanced nations have a choice between maximizing domestic growth (at least in the short-run) through restriction of their capital exports, and more moderate domestic growth through individual freedom of foreign investment, optimal flow of capital and lessening inequality of income internationally. If the latter alternative is chosen, a country could still control the rate of increase of its capital (invested both domestically and abroad) and national income (insofar as the latter depends upon capital stock) by appropriate decisions regarding the rate of public sector saving or dissaving. A country which adopted a policy of increased public saving combined with easier credit, would find a considerable portion of its private saving seeking investment outlets abroad. Under conditions of increasing capital mobility, even a large increase in bank credit would not succeed in lowering domestic interest rates greatly; investment demand would become more elastic with respect to the rate of interest. Nevertheless, even domestic real investment, although growing much less than total investment, would still be somewhat larger at the interest rate achieved than at the slightly higher rate involving less public and total saving.

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[7] The negative shift in the national saving-interest curve forced by the government of the deficit country will produce some increase in private saving in the surplus countries in response to generally higher interest rates. The deficit country will, in effect, be financed in part by this increase, in part by a shift from domestic to foreign investment by the surplus country. The altered composition may be much less productive for the surplus country from a development standpoint (see section II). Very similar results occur if the deficit country is aided through reserve accumulation by the surplus government financed by borrowing from its own public.

Note also that the aggregate real investment (and saving) of deficit countries plus surplus countries must decline in this process unless the surplus government deliberately shifts its policy-mix in the opposite direction, toward greater saving and further, that an effort in the surplus region to protect domestic (real) investment merely by an equal tax incentive would largely frustrate the deficit country's original program.

[8] To maximize domestic income alone, foreign investment must be carried only to the point at which its marginal revenue net of foreign taxes to American investors collectively equals the before-tax value of the marginal product on investment at home. At this point, the rate of return abroad still greatly exceeds that available domestically from the standpoint of the individual investor. It is not altogether clear whether the benefits from increased trade with the more rapidly developing capital-importing nations may not offset the advantage of such restriction in the long-run if the internationalist policy is adopted. See A. Lerner, *op. cit.*, p. 385; Murray Kemp, *Pure Theory of International Trade, Prentice-Hall,* 1964; M. Framkel, "Home Versus Foreign Investment," Kyklos, XVIII, 1965 Frasc. 3.

It may be said that, by deliberately choosing a spendthrift policy of public dissaving, a country could throw a larger share of the burden of financing its internal development onto the more thrifty foreign private or public savers. But this is equivalent to saying that a spendthrift exploits the thrifty money lender from whom he borrows. The marginal efficiency of investment is still, *ceteris paribus*, higher in the spendthrift country. Both the country and the individual who behave in this way, tend only to reduce their wealth relative to others, although this may be consistent with their subjective utility maximization.

III. *Implications for the Aggregate Level of World Capital Formation*

The Mundell approach may lead not only to misallocation of capital formation internationally, but also to a reduction in the total supply. This probability arises from the fact that, under conditions of free capital mobility, all countries would be under pressure to move toward the policy-mix of those choosing the highest interest rates combined with the largest government deficits. To illustrate, imagine two countries in a state of payments equilibrium at full employment. One chooses to shift to higher interest rates offset, from the standpoint of GNP, by lower government saving or increased dissaving. This country would attract capital from the other, creating a deficit there and a surplus for itself. If the other country is intent on maintaining a fixed exchange rate and fears internal deflation of costs and money incomes, it must, following Mundell, proceed to raise its interest rates and reduce its fiscal surplus or increase its deficit, thus tending to restore balance-of-payments equilibrium by duplicating the mix first adopted by its neighbor. In the end, both countries are again in a state of internal and external equilibrium, in Mundell's sense of balanced payments, full employment and price stability, but both now save less, have higher interest rates and a lower rate of aggregate capital formation.

This two-country analysis may be extended and points to a danger that the advanced countries with relatively free capital flows, would move collectively toward a tighter money-easier fiscal policy equilibrium, resulting not only in diminished growth for themselves, but also in a general reduction in the availability of their capital to underdeveloped areas.

IV. *Some Policy Implications*

The record of U.S. policy since 1958, a period of recession-deficit, illustrates some of the theoretical possibilities discussed. Fear of the payments deficit led to pressure for reduced economic aid to underdeveloped areas. The deficit motivated a rise in interest rates, and quantitative restrictions on foreign investment further reduced the supply of capital to the rest of the world. Hesitancy to apply either monetary or fiscal stimulation to the depressed economy was succeeded by a Mundell-like approach, which did much to remove the unemployment gap but furthered the shift toward tighter money and easier fiscal policy. Recently, this tendency has been accentuated by the reluctance of the government to employ the fiscal tool against inflationary as well as deflationary pressure, and by international competition in raising interest rates.[9]

V. *Conclusions*

1. Schemes for increased international liquidity are reasonable approaches to the moderate goal of offsetting secular declines in the net reserve position and, hence, stability of such reserve currencies as the U.S. dollar. But there is no support in U.S. experience for the hope that these schemes will resolve the conflict between internal stability and growth, on the one hand, and payments equilibrium on the other, under a regime of fixed exchange rates.

2. The Mundell approach provides a means which, from an accounting standpoint, combines price and employment objectives with balanced international payments at fixed exchange rates. But, in economic substance, this "equilibrium" does not differ from the imbalance financed by official credits or reserve-currency accumulation. Both involve a chronic pressure toward less than optimal capital movements. Although real investment effects can be offset by tax devices, the international distortion of the allocation of saving cannot be avoided under this approach if the necessary capital flows are to be achieved. Public saving is preempted by the task of payments manipulation.

3. The danger exists under the Mundell approach that all countries with relative freedom of capital movements will be forced to adopt the policies of those with the highest interest rates and the easiest fiscal policies. This could result in a low saving equilibrium for the economically-advanced world as a whole.

4. The temporary use of the Mundell proposal makes it a device for substituting private capital flows for movements of official reserves or credit, in financing a disequilibrium while seeking to restore equilibrium under fixed exchange rates. But there remains the difficulty of accomplishing this without destructive unemployment or unacceptable inflation.

5. A country may regulate its rate of capital formation in a world of increasing capital mobility, even if it adheres to the international viewpoint. The main proviso is that, as a capital exporter, it would have to accept a smaller increment to its national income (at least in the short-run) from a given increase in public (and total) saving, than if it limited private foreign investment according to national criteria.

Our meaningful option in regards to the balance of payments remains simply this: Either learning to meet the stresses of price level adjustments, or to accept some form of exchange rate flexibility.

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[9] This move is consistent with the Mundell approach for countries seeking to combat deficits, but inconsistent with it for surplus countries seeking to combat inflation. In adjusting to it, we encounter the danger discussed in section III, of an aggregate reduction of world capital formation.

Money Supply Versus Interest Rates: A Reply

► LYLE E. GRAMLEY and SAMUEL B. CHASE, JR.

In "Money Supply Versus Interest Rates as Proximate Objectives of Monetary Policy," which appeared in the June 1966 issue of this *Review*,[1] William G. Dewald raises several objections to our article, "Time Deposits in Monetary Analysis."[2] We argued that the existence of multiple classes of bank liabilities complicates the analysis of central bank policies and makes statistics on the money stock an untrustworthy indicator of central bank policy.

Dewald's objections fall into four general categories. First, he criticizes our conception of the supply of money and the determination of the money stock and, implicitly, rejects our argument that the traditional equation for the equilibrium stock of money is not properly viewed as a supply function. Second, he questions our statement that the money stock has a procyclical component despite countercyclical movements of bank reserves. Third, he points up problems not adequately treated by our partial model of the financial sector. Fourth, he argues that over the long run, monetary policy does not affect real magnitudes. We will consider these four matters in order.

However, we first would like to emphasize our agreement with Dewald that the interdependence between the "financial" sector and the "expenditure" sector means that observed movements of interest rates are not "accountable to monetary forces alone." One cannot conclude that central bank policies are appropriate or inappropriate by merely observing interest rate movements in relation to contemporaneous changes in economic activity any more than by observing contemporaneous changes in the money stock and economic activity. In recognition of this fact, our article stated:

> Unfortunately, there is no single financial variable in which the essence of monetary ease and restraint is distilled, and the influence of financial variables on expenditures is not so conveniently timed as to make possible an easy separation of the financial market effects of policy actions from those produced by shifts in the

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[1] "Money Supply Versus Interest Rates as Proximate Objectives of Monetary Policy," *The National Banking Review*, 3, June 1966, pp. 509-522.

[2] Lyle E. Gramley and Samuel B. Chase, Jr., "Time Deposits in Monetary Analysis," *Federal Reserve Bulletin*, LI, October 1965, pp. 1380-1406.

private sector's demand and supply functions for securities (p. 1404).

I. *Money Stock and Money Supply*

Dewald criticizes our statement that:

> In taking the money stock as an exogenous variable controlled by the central bank, traditional monetary analysis often regards a decline in market rates of interest accompanying an open market purchase as the result of the increase in actual money stocks relative to desired stocks. In fact, changes in the money stock and interest rates are determined simultaneously. But if logical priority is to be assigned to the correlative movements of the two variables, changes in the money stock are properly viewed as the result, not the cause, of declining yields on market securities (pp. 1390-1391).

We stand by the first and second sentences (Dewald, at least, agrees with the latter). The third sentence is misleading, and Dewald properly criticizes it. We should have said that it is more instructive, in our view, to think of increases in the money stock as occurring because money holders are willing to add to their money balances (and reduce their holdings of securities) as the excess demand for securities engendered by an open market purchase causes market interest rates to fall, than to consider this relationship in the manner suggested by the first sentence.

Dewald objects to our "deprecating" the solution of the model for M (the money stock) as simply an equilibrium condition, noting that the same could be said of the solution for any other endogenous variable in the model. His objection misses the point we were trying to make. It therefore seems worthwhile to quote at some length from the section of our paper labeled "Money supply hypotheses." Having argued that open market operations alter the money stock only if they alter the quantity of money demanded, we stated:

> It is possible to express the quantity of money, and its relation to other variables of the model, in a way that effectively conceals this fact. Thus, the equation:
>
> $$M = \frac{R_0}{k} - \frac{mT_D^P + (1\text{-}k)\, R_D^P + R_{DE}^B}{k}$$
>
> where M is the quantity of currency and demand balances, m is the reserve requirement against time deposits, and k is the reserve requirement for demand deposits, relates the money stock of the model to total claims against the central bank, reserve ratios against time and demand deposits, public holdings of currency and time deposits, and bank ownership of excess reserves. Viewed in this way, changes in the money stock are functions of changes in the monetary base, R_0, and a series of "leakages" into time deposits, currency, and excess bank reserves.
>
> Once the nature of these leakages has been specified, the equation is properly viewed as exhibiting a relation between the equilibrium money stock and the reserve base. Constructs of this nature are sometimes identified as "money supply hypotheses." But they are devoid of postulates regarding the willingness of any economic unit to supply either of the two components of the money stock—currency and demand deposits. The construct is, in fact, simply an equilibrium condition specifying that total demand for currency and bank reserves equals the total quantity outstanding.
>
> While the equilibrium quantity of money can be determined in this way, it must—in a consistent model—be identical to that found by summing the equilibrium quantities of currency and demand deposits obtained from the public's demand functions for these two financial assets. Determining the impact of open market operations on the money stock, consequently, requires knowledge of the effect of these operations on the endogenous variables of the system, no matter which procedure is used.

Dewald, however, without acknowledging our objection, produces this "money supply function":

$$M_S = R^P + D_S^P =$$

$$R^P + \frac{(R^* - R^P) - m^* T^P - R_{DE}^B}{k^*},$$

where M_S is the supply of money, R^P is currency held by the public, R^* is total currency plus bank reserves, m^* is the required reserve ratio for time deposits, T^P is the level of time deposits, R_{DE}^B is bank demand for excess reserves, and k^* is the required reserve ratio for demand deposits.[3] Star superscripts indicate exogenous variables.

The two equations are identical, except for notation. We denote by $_D$ subscripts that currency and time deposit holdings are equilibrium amounts demanded at given rates of interest on securities, time deposits, and demand deposits (and an assumed zero rate on currency).

In the interest of further clarifying our objection to labeling this equation, and treating it as though it were a supply function, perhaps the relationship between M_S and R^* should be considered in more detail.

First, write the demand for money:

$$(1)\quad M_D^P = D_D^P + R_D^P =$$

$$D_D^P(W, r_s, r_d, r_t) + R_D^P(W, r_s, r_d, r_t).$$

Taking W (wealth), r_t (the rate of interest on time deposits) and r_d (the rate of interest on demand deposits) as given, we need be concerned, in treating the demand for money, only with the relation:

$$(2)\quad \frac{\partial M_D^P}{\partial r_s} = \frac{\partial D_D^P}{\partial r_s} + \frac{\partial R_D^P}{\partial r_s},$$

that is, with the slope of the money demand function with respect to r_s, the rate of interest on private securities.[4]

Next, write the condition for equilibrium in the market for reserves:

$$(3)\quad R^* = R_D^P + k^* D_D^P + m^* T_D^P + R_{DE}^B.$$

Differentiating with respect to R^* yields:

$$\frac{\partial R^*}{\partial R^*} = \frac{\partial R_D^P}{\partial r_s}\frac{\partial r_s}{\partial R^*} + k^*\frac{\partial D_D^P}{\partial r_s}\frac{\partial r_s}{\partial R^*} +$$

$$m^*\frac{\partial T_D^P}{\partial r_s}\frac{\partial r_s}{\partial R^*} + \frac{\partial R_{DE}^B}{\partial r_s}\frac{\partial r_s}{\partial R^*},$$

which gives:

$$(4)\quad \frac{\partial r_s}{\partial R^*} =$$

$$\frac{1}{\dfrac{\partial R_D^P}{\partial r_s} + k^*\dfrac{\partial D_D^P}{\partial r_s} + m^*\dfrac{\partial T_D^P}{\partial r_s} + \dfrac{\partial R_{DE}^B}{\partial r_s}}.$$

The total derivative of (1) with respect to R^* is:

$$\frac{dM_D^P}{dR^*} = \left(\frac{\partial D_D^P}{\partial r_s} + \frac{\partial R_D^P}{\partial r_s}\right)\frac{\partial r_s}{\partial R^*}.$$

Substituting the relation shown by (4) gives:

$$(5)\quad \frac{dM_D^P}{dR^*} =$$

$$\frac{\dfrac{\partial D_D^P}{\partial r_s} + \dfrac{\partial R_D^P}{\partial r_s}}{\dfrac{\partial R_D^P}{\partial r_s} + k^*\dfrac{\partial D_D^P}{\partial r_s} + m^*\dfrac{\partial T_D^P}{\partial r_s} + \dfrac{\partial R_{DE}^B}{\partial r_s}},$$

which expresses the change in the quantity of money demanded in equilibrium that accompanies a change in R^*.

This total derivative is identical to the total derivative $\frac{dM_S}{dR^*}$. Differentiating the equilibrium stock (Dewald's "supply function") with respect to R^*, we obtain:

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[3] Dewald, *op. cit.*, p. 512. We have corrected a typographical error that crept into Dewald's article.

[4] The wealth implications of fluctuating market prices of securities are ignored in this reply, as in our previous article, for reasons of simplicity.

$$(6)\quad \frac{dM_s}{dR^*} = \frac{1}{k^*}\left[1 - m^*\frac{\partial T_D^P}{\partial r_s}\frac{\partial r_s}{\partial R^*} - (1-k^*)\frac{\partial R_D^P}{\partial r_s}\frac{\partial r_s}{\partial R^*} - \frac{\partial R_{DE}^B}{\partial r_s}\frac{\partial r_s}{\partial R^*}\right].^5$$

Substituting (4) into (6), yields:

$$(7)\quad \frac{dM_s}{dR^*} = \frac{1}{k^*}\left[1 - \frac{m^*\frac{\partial T_D^P}{\partial r_s} + \frac{\partial R_D^P}{\partial r_s} - k^*\frac{\partial R_D^P}{\partial r_s} + \frac{\partial R_{ED}^B}{\partial r_s}}{\frac{\partial R_D^P}{\partial r_s} + k^*\frac{\partial D_D^P}{\partial r_s} + m^*\frac{\partial T_D^P}{\partial r_s} + \frac{\partial R_{DE}^B}{\partial r_s}}\right],$$

which can be simplified to:

$$(8)\quad \frac{dM_s}{dR^*} = \frac{\frac{\partial D_D^P}{\partial r_s} + \frac{\partial R_D^P}{\partial r_s}}{\frac{\partial R_D^P}{\partial r_s} + k^*\frac{\partial D_D^P}{\partial r_s} + m^*\frac{\partial T_D^P}{\partial r_s} + \frac{\partial R_{DE}^B}{\partial r_s}}.$$

The fact that (8) is identical to (5) does not mean that the money demand function is identical to the money supply function. It signifies that the change in the equilibrium quantity of money supplied in response to an open market operation is equal to the change in the equilibrium quantity of money demanded in response to the same open market operation. This is why we contend that:

> In short, open market operations alter the stock of money balances if, and only if, they alter the quantity of money *demanded* by the public (p. 1390).

To call the M_s equation the money supply function is improper terminology and confuses analysis. (It would be just as improper, but no more so, to call the M_s equation the demand function for money.)

It is clear from equation (8) that the equilibrium money stock determined from Dewald's "money supply function," given R^*, k^*, and m^*, depends *entirely* on asset-demanding behavior. The relevant behaviorally-determined parameters are slopes with respect to r_s of four separate demand functions—public demand for currency, demand deposits and time deposits, and bank demand for excess reserves.

We want to reserve the term "supply" for its traditional meaning in economic analysis—a schedule or function relating the amount of money banks and the monetary authority are willing to provide to the "prices," or interest costs of providing it. The supply of money is defined independently of the demand for money—a schedule or function relating the amount of money people are willing to hold to the "prices" or interest return from holding it.

In much of our analysis, we assumed that banks stand ready to supply whatever deposits the public wishes to hold

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[5] The $_D$ subscripts are added to emphasize that the quantities of time deposits, currency holdings, and excess reserves are demand determined.

at a given interest rate on deposits.[6] Dewald takes exception to our statement that in our model "banks are not constrained in their ability to supply deposits by the existence of legal reserve requirements or by the level of bank reserves." He objects because our equilibrium stock equation includes both reserve requirements and the level of reserves. Would he object to a statement that "individuals are not constrained in their ability to demand deposits by the existence of legal reserve requirements or by the level of bank reserves?" If he would, then he is consistent, and in that case, we are arguing only about words.

Dewald misinterprets us as saying that the observed stock of money is in no way related to the level of reserve requirements or the stock of bank reserves. Clearly, the stock of money depends, among other things, on the quantity of bank reserves and the level of reserve requirements. To quote our article:

> An open market purchase requires the yield on securities to fall until expanded public demand for currency, together with bank demand for reserves, absorbs the enlarged stock of outstanding claims against the central bank (p. 1391).

Bank demand for reserves is composed of required reserves—the product of demand and time deposits and their respective percentage reserve requirements —and excess reserves, which we have assumed to be negatively related to interest rates.

II. *Cyclical Variations of the Money Stock and Bank Reserves*

We argued that time deposits cannot be neglected in studies of cyclical fluctuations, and that "substitution between time deposits and securities may be an important source of procyclical variations in the stock of money even in the face of countercyclical central bank policy."[7] Then, we indicated that empirical findings from a study by de Leeuw:

> . . . confirm the view that monetary policy, through its impact on market rates of interest, has an important bearing on the level of commercial bank time deposits. They also indicate why the money stock may vary procyclically around turning points in economic activity despite countercyclical changes in bank reserves (p. 1394).

Dewald examines our "assertion" that the money stock has a procyclical component despite countercyclical changes in bank reserves, and finds it wanting. Dewald apparently agrees that the money stock has a procyclical component. Apparently, he also agrees with our statement that the growth of total bank deposits and bank credit accelerated during each of the last three recessions.[8] He also shows that over recession periods as a whole, two other magnitudes—not measures we were concerned with—moved countercyclically over entire periods of recession and expansion. "But," he contends, "the record of monetary policy actions by this accounting seems better than it actually was." The basis for his statement is that during the six months including the peak month and the five following months of recession, his own two measures—"Reserves Available for Private Demand Deposits" and the "de Leeuw money supply"—showed less growth than they did over the entire peak-to-trough period.

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[6] The simple assumptions we made about these supply functions have, we think, historical relevance. But we are convinced that they merit much more study. We believe that the supply functions for money and time deposits are interesting and important phenomena, just as the demand functions are. If our critics are successful in denying us this use of the term, we hope they will nonetheless be interested in the phenomena which, following out the logic, apparently would be called equilibrium stock relations.

[7] Gramley and Chase, *op. cit.*, p. 1393.

[8] *Ibid.*

Dewald's dim view of monetary policy may be correct. But the movements of his two measures over the periods he has chosen, whatever may be their merits for analytical purposes, are not proper evidence on which to judge whether bank reserves have moved countercyclically. As Dewald states, "the key question involves Gramley and Chase's assertion that there has been countercyclical variation in bank reserves or high-powered money." We do not understand the logic of choosing—in order to assess the accuracy of our statement that substitution between time deposits and securities may be a source of procyclical variations in money, even though bank reserves vary countercyclically—one series that excludes required reserves for time deposits, and a second that assumes no changes in the ratio of time deposits to the money stock in response to changes in reserves or interest rates.

In support of our statement, we show, in the accompanying Table, annual rates of change in the money stock and in two measures of bank reserves. The first is "Reserves Available for Private Deposits." This measure, like Dewald's "Reserves Available for Private Demand Deposits," is adjusted for reserve requirement changes and excludes required reserves against interbank and government deposits, but it includes required reserves for time deposits. The second is total reserves, adjusted for reserve requirement changes.

The Table shows that over entire peak-to-trough and trough-to-peak periods, the rate of growth of money changes procyclically and the rate of growth of both reserve measures moves countercyclically.

With reference to turning points, there is perhaps no perfect test of whether something "moves countercyclically around a turning point." Dewald appears to believe that the proper test is whether the measure's rate of change is greater (less) in the early months of expansion (contraction) than it is in the later months, and derives his conclusions from a measure of that kind. But this seems a better basis for judging whether the moves were "too little or too late," than for judging whether they were countercyclical around turning points. It seems proper to contend that a measure of bank reserves moves countercyclically around turning points if its annual rate of change accelerates as the peak in activity is passed and declines during the early months of expansion. This does not necessarily imply that policy was "right" in magnitude. It does not even necessarily imply that policy was "right" in direction, because the length of the lag between a policy action and its effect on spending is not easily determined. It simply means that the measure moved countercyclically.

The Table shows annual rates of change in the money stock and the two measures of reserves during the six months prior to, and the six months following, each turning point in the post-accord period. It will be noted that the money stock moved procyclically around 5 of the 6 turning points and countercyclically around the most recent peak. Both measures of reserves, on the other hand, moved countercyclically around 5 of the 6 turning points, but procyclically around the July 1957 peak. (In 1957, by almost any criterion, the "recognition lag" was painfully long.)

Again, these data do not necessarily imply that monetary policy was "right" most of the time. Presumably, Federal Reserve policy was far from perfect, since there were cyclical fluctuations in activity that ought ideally to have been eliminated. The Table does, however, support our point that the money stock has moved procyclically most of the time despite countercyclical movements of bank reserves.

Cyclical Behavior of Monetary Policy Measures

Dates	Compounded Annual Rates of Change (Percent)		
	Money Stock	Reserves Available For Private Deposits	Effective Reserves
Between National Bureau of Economic Research Turning Points:			
July 1953(P)—August 1954(T)	1.5	3.8	3.3
August 1954—July 1957(P)	1.6	1.1	1.0
July 1957—April 1958(T)	0.0	2.9	3.2
April 1958—May 1960(P)	1.1	0.4	0.6
May 1960—February 1961(T)	0.1	4.5	4.6
February 1961—August 1966	3.4	4.2	3.6
Six-Month Intervals Around Cyclical Peaks:			
January 1953—July 1953(P)	2.1	3.2	1.3
July 1953—January 1954	0.6	4.4	3.9
January 1957—July 1957(P)	0.1	−0.1	1.4
July 1957—January 1958	−2.2	−0.5	−1.5
November 1959—May 1960(P)	−3.3	−3.4	−2.0
May 1960—November 1960	0.7	5.1	5.9
Six-Month Intervals Around Cyclical Troughs:			
February 1954—August 1954(T)	2.5	7.0	6.3
August 1954—February 1955	5.0	2.7	3.1
October 1957—April 1958(T)	0.7	5.3	6.3
April 1958—October 1958	4.6	4.4	3.2
August 1960—February 1961(T)	1.1	4.7	4.8
February 1961—August 1961	2.3	3.7	2.7

(T) equals "trough."

(P) equals "peak."

Source: All annual rates of change calculated from seasonally adjusted monthly averages of daily figures provided by the Federal Reserve Bank of St. Louis, except February 1961-August 1966 rate of change of Reserves Available for Private Deposits, which is calculated from data provided by the Board of Governors of the Federal Reserve System.

III. *Interest Rates and the "Link"*

Our argument stressed strongly that open market purchases and sales may be reflected more in time deposit growth or decline than in demand deposit growth or decline, particularly if time deposit rates are sticky, as they were during the postwar years up to 1961. Some might argue that time deposits are properly included in measures of money and that growth of money so defined is stimulative. Our contention is that the crucial requirement for an indicator of monetary policy is that it reflect "the influence of central bank actions on the prices and yields of financial assets and on the non-price terms governing the availability of credit to private borrowers."

It seems clear that changes in the money stock may reflect this imperfectly, if at all, partly because expansionary policies (expanding reserves and bank credit) may find their expression on the liability side of the banking system's balance sheet in time deposits. Unfortunately, it does not follow that movements of bank reserves, bank deposits, or bank credit are necessarily good measures of the effects in question. Growth of time deposits in recent recessions conceivably could have represented mainly "switches" among market securities and bank deposits that dissipated the effects of countercyclical changes in bank reserves on interest rates and securities prices. Alternatively, the substantial growth of time deposits during those recession periods may have reflected a significant increase in the effects of changes in bank reserves on financial asset yields and on nonprice terms of credit.

Recent cyclical experience, in our judgment, points to the necessity to deal with the problem of time deposits, and to determine the implications for open market policy of variations in time deposit growth rates, and in the interest rates paid by banks on time accounts. This was, we thought, the central focus of our paper, and we are concerned that Dewald can so readily dismiss it.[9]

Dewald correctly notes that our model is incomplete. He points out, with reference to a "Keynesian-like" model of his own, that interest rates and securities prices can change for reasons other than central bank actions—particularly because of changes in planned expenditures at given interest rates. Thus, a decline of interest rates is not necessarily evidence that policy is expansionary. According to Dewald, "An expansionary policy requires that policy-controlled variables change so that the rate falls more and money less than otherwise."

What are "policy-controlled variables?" What is "otherwise?" One might wish to trace total bank reserves (adjusted for changes in reserve requirements) and to argue that if their growth accelerates, policy is expansionary because interest rates will be lower than they would be if reserves grew only at a steady rate. Dewald, perhaps, would accept this test, subject to reservations concerning the influence of price level movements on nominal interest rates which we discuss briefly below. Would he then contend that the countercyclical movements of bank reserves shown in our Table do not reflect countercyclical policy?

We think not, although we cannot be sure. At one point, at least, Dewald implies that we held that central bank policy has been countercyclical on the basis of observed cyclical variations in interest rates:

> If, as is apparently the case, Gramley and Chase measure the effect of policy actions on interest rates, the fact that they assume away any effect of planned spending on interest rates makes a mockery of their empirical conclusions about the procyclical variation in the quantity of money despite countercyclical policy actions (p. 521).

At no point did we argue that policy has been countercyclical because interest rates moved countercyclically. We agree entirely with Dewald that had the Federal Reserve pursued open market operations so aggressively as to make the rate of change in the money stock move countercyclically (that is, inversely with contemporaneous movements of income), policy would have been more "expansionary" in recessions and more "contractionary" in periods of rapid growth. Interest rates would also have fluctuated more, as Dewald argues correctly.

But we do not believe that Dewald

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[9] In the section dealing with this issue, Dewald states that we show "that it is theoretically possible for Federal Reserve open market purchases to cause the rate of interest on private securities to either rise or fall" (p. 513). What, in fact, we argued was that substitution between time deposits and securities, and endogenous variations in time deposit rates, could make open market purchases more or less potent in terms of their effects on market interest rates. Dewald discovered the possible perverse case—in all probability by manipulating the equation system he presented. He also states that "It is interesting to complete the theoretical taxonomy by noting that the quantity of money could either rise or fall in response to an open market purchase" (p. 513). These strange possibilities that develop in a world in which time deposits are intimately involved with monetary processes make us acutely uncomfortable, given the present state of empirical knowledge.

has presented a case for such policies. In his "expanded model," in which all variables including aggregate demand are determined simultaneously and, more important, in a more instructive model that embodies lagged relations, the *supply of time deposits* (as we use the term, "supply") will significantly condition the effect of a given change in bank reserves on the money stock, deposit levels, bank credit, interest rates, and real activity. In such a model, the supply of time deposits will figure into the determination of the "proper" rate of growth of either the money stock or bank reserves.

IV. *Price Level Changes and Nominal Interest Rates*

Dewald's article concludes on this note:

> . . . the fact that Gramley and Chase ignore the effect of policy actions on the level of prices and expenditures limits the policy implications of their analysis to the very short run (p. 522).

For the longer run, Dewald maintains, except in periods when there is substantial unemployment, it may not be instructive to think about policy in terms of its effects on interest rates and securities prices. He states:

> Though interest rates doubtless play a significant role in transmitting the effects of changes in policy-controlled variables on magnitudes that matter, it does not follow that monetary policy can continue to affect interest rates as relative prices. . . . From a long-run point of view the linkage between financial and nonfinancial markets may indeed be only a veil, in which case policy actions may only affect the price level and nominal magnitudes.

This consideration, as Dewald points out, goes beyond the bounds of our analysis, and we do not intend to pursue the matter at length here. The question Dewald raises is, however, an important one. We agree that expected inflation or deflation would effect nominal interest rates in the direction Dewald suggests. But Dewald's apparent view that monetary policy has permanent effects on "real" interest rates only if money illusion exists somewhere in the economic system is not necessarily correct. This question has been widely discussed. To our knowledge, no one has yet successfully refuted the position so elegantly expounded by Lloyd Metzler in 1951.[10] The essence of Metzler's argument is that, unless expenditures for goods and services are independent of wealth, monetary expansion or contraction brought about through security purchases by the central bank always alter the full employment equilibrium interest rate. "Money illusion," as we understand the meaning of that term, is not required for open-market operations to have permanent effects on what Dewald calls "real" interest rates.

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[10] "Wealth, Saving, and the Rate of Interest," *Journal of Political Economy,* LIX, April 1951, pp. 93-116.

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Current Legal and Regulatory Developments

In December 1966, a revised edition of the Comptroller's Manual was published. It contained many of the rulings which previously appeared in this section of the Review, some with minor modification.

I. *Loans to Executive Officers*

The Comptroller has ruled that a national bank may make loans to children of bank officers under the New Jersey State Student Loan Program, without being subject to the loan limit prescribed for executive officers in 12 U.S.C. 375(a). The ruling noted that under this loan program only the student would be required to sign the note as maker. The officer would not become subject to statutory limit, directly or indirectly, by reason of an indorsement on an obligation, or otherwise, to pay money or its equivalent.

II. *Construction Loans*

Paragraph 2400 of the *Comptroller's Manual* states that the construction loan requirement contained in the third paragraph of 12 U.S.C. 371, that there be a "valid and binding agreement entered into by a financially responsible lender to advance the full amount of the bank's loan upon the completion of the building," may be met by any form of takeout provision which includes a valid and binding agreement that will result in the full repayment of the bank's loan upon completion of the building. The Comptroller recently ruled that this requirement was not satisfied in an arrangement where the bank's loan would be made against a commitment from a financially responsible lender to advance the full amount of the loan upon completion of the building within 29 months from the date of the loan, provided that, at the end of the 29 months, the building was, at least, 80 percent occupied.

III. *Short-term Financing*

The Comptroller ruled that a bank may provide short-term financing to an insurance company customer, by a transaction which includes an agreement by the bank to assume the insurance company's obligation to purchase on original issue a long-term secured note, and an agreement by the insurance company to purchase the note from the bank approximately two months later. The insurance company had undertaken to provide long-term financing for a construction project, through the purchase of the note which was to be secured by a mortgage and an assignment to a trustee. The mortgage and assignment were to contain many provisions customarily found in trust indentures governing issues of investment securities. The insurance company preferred financial assistance from the bank in the manner outlined, rather than in the form of a loan. The Comptroller ruled that the proposed transaction was a proper exercise of a bank's power to provide appropriate financing to enable a customer to perform his contract, and because it did not provide for the bank to distribute or retain securities, was not an underwriting of the kind prohibited by paragraph Seventh of 12 U.S.C. 24.

IV. *Credit Cards*

In a recent ruling, the Comptroller held that several banks in one state may offer, through a commonly-owned clearing house association, credit card services to the public. The clearing house association would be organized by the banks as a nonprofit corporation pursuant to appropriate state law and would be open to any bank in the state. Although all banks desiring to participate in the credit card plan would be required to become members of the clearing house association, the members would compete among themselves, and with others for credit card business from all sources. The clearing house association would perform, for its members, services and functions necessary for the internal operation of the credit card plan, such as credit information, sales audit, card security control, merchant directory preparation, and advertising.

V. *Ownership of Real Estate*

The Comptroller has interpreted 12 U.S.C. 29 [1] to allow a bank to purchase a limited number of residences for the use of its employees assigned to certain remote locations having a limited and uncertain rental housing market. The ruling observed that a similar problem confronts many banks which maintain offices or other bank facilities at locations where suitable housing at a reasonable price is not readily available to their employees.

VI. *Real Estate Insurance*

The Comptroller has reiterated his position that a national bank may purchase real estate mortgage errors-and-omissions insurance to protect its security and other interests against loss, whether as mortgagee, mortgage fiduciary or mortgage servicer, due to its own errors or omissions, the errors or omissions of the mortgagor, or the inadequacy of insurance obtained by the mortgagor.[2] Among the benefits flowing from such insurance, is a reduced need for extensive files relating to insurance obtained by the mortgagor on his real estate, and for follow-up procedures relating to such insurance. The Comptroller stated, however, that real estate mortgage errors-and-omissions insurance should be regarded as protection against the loss of a security or other interest, rather than as a substitute for the bank's responsibility for appropriate surveillance of its security interests. Thus, even though extensive files and follow-up procedures are no longer necessary when real estate mortgage errors-and-omissions insurance is obtained, a national bank should verify at reasonable intervals that proper insurance on mortgaged real estate is in force.

VII. *Subsidiary Corporations*

As a general rule, a national bank may engage in activities which are a part of the business of banking or incidental thereto, through a department of the bank or through a subsidiary corporation, whose controlling stock is owned by the bank.[3] The Comptroller has recently ruled that a national bank may organize a wholly-owned subsidiary corporation for the purpose of collecting overdue loans. The subsidiary would issue its capital stock to the bank for cash invested in the subsidiary, and certain officers of the bank would be elected officers and directors of the subsidiary, which would have an office on the bank's premises. Under the proposed arrangement, some or all of the bank's loans, which had become at least 30 days delinquent, would be assigned to the subsidiary corporation under a contract whereby the subsidiary would exert its best efforts to collect the note for a small fee in addition to collection costs. The subsidiary could also act as a collection agent for customers other than the bank.

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[1] This section describes the conditions under which a national bank may purchase, hold and convey real estate.

[2] For a previous ruling, on this subject, see *The National Banking Review*, 2, June 1965, p. 576.

VIII. *Trust Department*

The Comptroller has ruled that a national bank that does not have trust powers may perform certain agency services for the Bureau of Indian Affairs, United States Department of the Interior. Under the Bureau's plan, annual range unit fees would be paid directly to the bank, to be held in an escrow account pending distribution pursuant to instructions from the Bureau, and there would be no discretionary authority in the bank.

The Comptroller has ruled on whether a national bank may charge its regular commercial loan interest rate on overdrafts in its trust accounts. He held that 12 CFR 9.12(f), which provides for loans by a bank to one of its fiduciary accounts, also applies to overdrafts. Although Regulation 9 does not expressly authorize the charging of interest on an overdraft, the Comptroller noted that such a charge should be equitable and subject to the "fairness" test of the Regulation. Regarding the "fairness" test, the ruling stated that, if a cheaper rate for an advance of credit can be obtained from another financial institution, the bank may not charge interest in excess of that lower rate, nor is it entitled to any interest if the overdraft is offset by other funds of the same account on deposit with the bank, or if the overdraft is caused by the bank's laxity of operation.

The Comptroller recently approved an arrangement by which a national bank may dispose of residential real estate owned by employees of a corporation who have been transferred to another city. The arrangement provides that the employer will appraise the employee's home, and the employee will execute a living trust agreement with the bank based on its appraisal. Under the trust agreement, the bank takes title to the real estate, agrees to manage it, to make mortgage payments, to pay taxes, and to sell it, either directly or through a broker, for the best price. The trust agreement would be executed with the formalities of a deed, and placed in the land records of the county in which the real estate is located. Upon transfer of title to the bank as trustee, it would advance to the employee an amount equal to his equity in the property, which would be the difference between the balance of the mortgage to be paid and the appraisal value of the property. The employer would agree by contract to sustain any loss to the bank resulting from the sale of the property, and to purchase any real estate not sold within a specific period of time at a price sufficient to pay the employee's note and all costs of management.

The ruling also observed that the advance to the employee is not a real estate loan within the meaning of 12 U.S.C. 371, because it is not based on the property but rather upon the contractual obligation of the employer.

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[3] See, for example, *The National Banking Review*, 3, June 1966, p. 553 (*"Branch Banking"*); Ibid, 3, December 1965, p. 264 (*"Acquisition of Finance Company"*).

IX. *Investment Securities*

In the period September 1 through November 30, 1966, the Comptrolled ruled that the following securities are eligible for purchase, dealing in, underwriting and unlimited holding by national banks:

(1) Louisiana Capital Construction and Improvement Commission Public Improvement Bonds (12 CFR 1.174);

(2) Florida State Board of Education Higher Education Bonds (12 CFR 1.175);

(3) Export-Import Bank Portfolio Fund Participation Certificates (12 CFR 1.176);

(4) Oxnard (California) Auditorium Authority Revenue Bonds (not published in CFR);

(5) El Cajon (California) Building Authority Revenue Bonds (not published in CFR);

(6) Orange County (California) Westminister Civic Center Authority Courthouse Revenue Bonds (not published in CFR);

(7) City of Natchitoches, Louisiana, Public Improvement Bonds (not published in CFR);

(8) Alabama Public School and College Authority Capital Improvement Bonds (not published in CFR);

(9) Venice Park District (Illinois) General Obligation Bonds (not published in CFR).

Dennis James Lehr,
Associate Chief Counsel,
Office of the Comptroller
of the Currency

Selected Statistical Data

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17 Total and principal liabilities of national banks, by states, April 5, 1966 235

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TABLE 1

Number of national banks and banking offices, by states, September 30, 1966

	National banks			Number of branches	Number of offices
	Total	Unit	With branches		
United States	4,806	3,422	1,384	9,223	14,029
Alabama	87	56	31	134	221
Alaska	5	0	5	40	45
Arizona	4	1	3	178	182
Arkansas	66	38	28	61	127
California	91	47	44	1,773	1,864
Colorado	117	117	0	0	117
Connecticut	30	10	20	177	207
Delaware	5	3	2	4	9
District of Columbia	9	1	8	53	62
Florida	198	198	0	0	198
Georgia	58	33	25	124	182
Hawaii	2	0	2	40	42
Idaho	9	3	6	99	108
Illinois	420	420	0	0	420
Indiana	122	58	64	263	385
Iowa	102	68	34	38	140
Kansas	170	146	24	24	194
Kentucky	80	39	41	120	200
Louisiana	47	15	32	141	188
Maine	21	6	15	71	92
Maryland	49	21	28	195	244
Massachusetts	90	24	66	346	436
Michigan	98	36	62	450	548
Minnesota	194	192	2	6	200
Mississippi	36	9	27	93	129
Missouri	98	80	18	18	116
Montana	49	49	0	0	49
Nebraska	126	109	17	17	143
Nevada	3	1	2	35	38
New Hampshire	52	33	19	25	77
New Jersey	149	47	102	452	601
New Mexico	34	15	19	54	88
New York	192	97	95	986	1,178
North Carolina	28	8	20	273	301
North Dakota	42	35	7	7	49
Ohio	225	95	130	548	773
Oklahoma	220	194	26	26	246
Oregon	13	8	5	215	228
Pennsylvania	360	207	153	824	1,184
Rhode Island	4	0	4	53	57
South Carolina	26	5	21	182	208
South Dakota	34	26	8	40	74
Tennessee	77	23	54	219	296
Texas	546	546	0	0	546
Utah	13	9	4	55	68
Vermont	27	15	12	31	58
Virginia	115	44	71	363	478
Washington	30	15	15	343	373
West Virginia	80	80	0	0	80
Wisconsin	112	100	12	24	136
Wyoming	40	40	0	0	40
Virgin Islands	1	0	1	3	4
D.C.—all *	14	1	13	89	103

* Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

TABLE 2

Status of applications for national bank charters, and charters issued; July 1-September 30, 1966

Applications carried over from June 30, 1966	24
3 Conversions	
21 Primary	
Applications received July 1-September 30, 1966	29
8 Conversions	
21 Primary	
	53
Applications approved July 1-September 30, 1966	14
5 Conversions	
9 Primary	
Applications rejected July 1-September 30, 1966	9
1 Conversion	
8 Primary	
Applications abandoned July 1-September 30, 1966	0
0 Conversions	
0 Primary	
Applications pending as of September 30, 1966	30
5 Conversions	
25 Primary	
	53

* * * * * *

National banks chartered July 1-September 30, 1966	9
2 Conversions	
7 Primary	

TABLE 3

Status of applications for national bank charters*, and charters issued*, by states, July 1-September 30, 1966

	Received †	Approved	Rejected	Abandoned	Pending September 30, 1966	Charters issued
United States	42	9	8	0	25	7
Alabama	0	0	0	0	0	1
Alaska	0	0	0	0	0	0
Arizona	0	0	0	0	0	0
Arkansas	1	0	0	0	1	1
California	0	0	0	0	0	0
Colorado	1	0	0	0	1	0
Connecticut	2	0	2	0	0	0
Delaware	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0
Florida	6	1	0	0	5	0
Georgia	2	1	0	0	1	0
Hawaii	0	0	0	0	0	0
Idaho	0	0	0	0	0	0
Illinois	2	1	0	0	1	1
Indiana	0	0	0	0	0	0
Iowa	0	0	0	0	0	0
Kansas	1	1	0	0	0	0
Kentucky	0	0	0	0	0	0
Louisiana	1	0	0	0	1	0
Maine	0	0	0	0	0	0
Maryland	2	0	0	0	2	0
Massachusetts	0	0	0	0	0	0
Michigan	2	0	0	0	2	0
Minnesota	1	0	0	0	1	0
Mississippi	0	0	0	0	0	1
Missouri	0	0	0	0	0	0
Montana	0	0	0	0	0	0
Nebraska	1	0	1	0	0	0
Nevada	0	0	0	0	0	0
New Hampshire	0	0	0	0	0	1
New Jersey	3	0	0	0	3	0
New Mexico	0	0	0	0	0	0
New York	4	3	0	0	1	0
North Carolina	0	0	0	0	0	0
North Dakota	0	0	0	0	0	0
Ohio	0	0	0	0	0	0
Oklahoma	0	0	0	0	0	0
Oregon	0	0	0	0	0	0
Pennsylvania	0	0	0	0	0	0
Rhode Island	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0
South Dakota	0	0	0	0	0	0
Tennessee	0	0	0	0	0	0
Texas	5	1	4	0	0	0
Utah	0	0	0	0	0	0
Vermont	0	0	0	0	0	0
Virginia	0	0	0	0	0	0
Washington	1	0	0	0	1	0
West Virginia	0	0	0	0	0	1
Wisconsin	5	1	1	0	3	1
Wyoming	1	0	0	0	1	0
Puerto Rico	1	0	0	0	1	0

* Excludes conversions.

† Includes applications pending as of June 30, 1966.

TABLE 4

Status of applications for conversion to national bank charters, and charters issued, by states, July 1-September 30, 1966

	Received*	Approved	Rejected	Abandoned	Pending September 30, 1966	Charters issued
United States	11	5	1	0	5	2
Alabama	0	0	0	0	0	0
Alaska	0	0	0	0	0	0
Arizona	0	0	0	0	0	0
Arkansas	0	0	0	0	0	0
California	0	0	0	0	0	0
Colorado	0	0	0	0	0	0
Connecticut	0	0	0	0	0	0
Delaware	0	0	0	0	0	0
District of Columbia	1	1	0	0	0	1
Florida	0	0	0	0	0	0
Georgia	0	0	0	0	0	0
Hawaii	0	0	0	0	0	0
Idaho	0	0	0	0	0	0
Illinois	2	1	0	0	1	0
Indiana	2	1	0	0	1	0
Iowa	1	0	1	0	0	0
Kansas	0	0	0	0	0	0
Kentucky	0	0	0	0	0	0
Louisiana	0	0	0	0	0	0
Maine	0	0	0	0	0	0
Maryland	0	0	0	0	0	0
Massachusetts	0	0	0	0	0	0
Michigan	0	0	0	0	0	0
Minnesota	0	0	0	0	0	0
Missouri	0	0	0	0	0	0
Mississippi	0	0	0	0	0	0
Montana	0	0	0	0	0	0
Nebraska	0	0	0	0	0	0
Nevada	0	0	0	0	0	0
New Hampshire	0	0	0	0	0	0
New Jersey	1	1	0	0	0	1
New Mexico	0	0	0	0	0	0
New York	0	0	0	0	0	0
North Carolina	0	0	0	0	0	0
North Dakota	0	0	0	0	0	0
Ohio	2	0	0	0	2	0
Oklahoma	0	0	0	0	0	0
Oregon	0	0	0	0	0	0
Pennsylvania	0	0	0	0	0	0
Rhode Island	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0
South Dakota	0	0	0	0	0	0
Tennessee	0	0	0	0	0	0
Texas	0	0	0	0	0	0
Utah	0	0	0	0	0	0
Vermont	0	0	0	0	0	0
Virginia	2	1	0	0	1	0
Washington	0	0	0	0	0	0
West Virginia	0	0	0	0	0	0
Wisconsin	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0

* Includes applications pending as of June 30, 1966.

TABLE 5

Branches of national banks: in operation June 30, 1966; opened, discontinued, or consolidated, July 1-September 30, 1966; and branches in operation September 30, 1966

	Branches in operation June 30, 1966	De novo branches opened for business July 1-Sept. 30, 1966	Branches acquired through merger or conversion July 1-Sept. 30, 1966	Existing branches discontinued or consolidated July 1-Sept. 30, 1966	Branches in operation Sept. 30, 1966
United States	9,074	131	30	12	9,223
Alabama	128	6	0	0	134
Alaska	40	0	0	0	40
Arizona	178	0	0	0	178
Arkansas	61	0	0	0	61
California	1,766	11	1	5	1,773
Colorado	0	0	0	0	0
Connecticut	172	4	1	0	177
Delaware	4	0	0	0	4
District of Columbia	48	0	5	0	53
Florida	0	0	0	0	0
Georgia	123	1	0	0	124
Hawaii	41	0	0	1	40
Idaho	99	0	0	0	99
Illinois	0	0	0	0	0
Indiana	259	5	0	1	263
Iowa	37	1	0	0	38
Kansas	24	0	0	0	24
Kentucky	120	0	0	0	120
Louisiana	138	3	0	0	141
Maine	71	0	0	0	71
Maryland	191	4	0	0	195
Massachusetts	341	5	0	0	346
Michigan	436	14	0	0	450
Minnesota	6	0	0	0	6
Mississippi	87	6	0	0	93
Missouri	18	0	0	0	18
Montana	0	0	0	0	0
Nebraska	17	0	0	0	17
Nevada	34	1	0	0	35
New Hampshire	23	2	0	0	25
New Jersey	438	11	3	0	452
New Mexico	53	1	0	0	54
New York	973	14	0	1	986
North Carolina	266	7	0	0	273
North Dakota	6	1	0	0	7
Ohio	540	8	0	0	548
Oklahoma	26	0	0	0	26
Oregon	214	1	0	0	215
Pennsylvania	811	10	6	3	824
Rhode Island	53	0	0	0	53
South Carolina	178	4	0	0	182
South Dakota	38	0	2	0	40
Tennessee	214	4	1	0	219
Texas	0	0	0	0	0
Utah	55	0	0	0	55
Vermont	31	0	0	0	31
Virginia	348	6	10	1	363
Washington	342	0	1	0	343
West Virginia	0	0	0	0	0
Wisconsin	24	0	0	0	24
Wyoming	0	0	0	0	0
Virgin Islands	2	1	0	0	3
D.C.—all*	85	3	1	0	89

* Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

TABLE 6
Status of de novo branch applications of national banks, by states, July 1-September 30, 1966

	Received*	Approved	Rejected	Abandoned	Pending September 30, 1966
United States	486	195	42	11	238
Alabama	7	6	0	0	1
Alaska	0	0	0	0	0
Arizona	3	1	0	0	2
Arkansas	4	0	2	0	2
California	76	31	14	1	30
Colorado	0	0	0	0	0
Connecticut	11	7	1	0	3
Delaware	0	0	0	0	0
District of Columbia	2	1	0	1	0
Florida	0	0	0	0	0
Georgia	7	4	0	0	3
Hawaii	0	0	0	0	0
Idaho	1	0	0	0	1
Illinois	0	0	0	0	0
Indiana	9	3	0	0	6
Iowa	1	1	0	0	0
Kansas	0	0	0	0	0
Kentucky	6	3	0	0	3
Louisiana	3	2	0	0	1
Maine	3	0	0	0	3
Maryland	24	7	4	0	13
Massachusetts	13	9	0	0	4
Michigan	32	16	0	1	15
Minnesota	0	0	0	0	0
Mississippi	7	3	1	0	3
Missouri	1	1	0	0	0
Montana	0	0	0	0	0
Nebraska	1	1	0	0	0
Nevada	1	1	0	0	0
New Hampshire	12	2	0	3	7
New Jersey	18	9	0	0	9
New Mexico	3	3	0	0	0
New York	62	23	14	2	23
North Carolina	11	4	0	1	6
North Dakota	2	1	0	0	1
Ohio	20	14	0	0	6
Oklahoma	0	0	0	0	0
Oregon	5	1	0	0	4
Pennsylvania	30	15	4	1	10
Rhode Island	0	0	0	0	0
South Carolina	15	8	0	1	6
South Dakota	0	0	0	0	0
Tennessee	7	5	1	0	1
Texas	0	0	0	0	0
Utah	3	1	0	0	2
Vermont	3	2	0	0	1
Virginia	10	3	1	0	6
Washington	12	7	0	0	5
West Virginia	0	0	0	0	0
Wisconsin	61	0	0	0	61
Wyoming	0	0	0	0	0
Virgin Islands	0	0	0	0	0
D.C.—all †	5	4	0	1	0

* Includes applications pending as of June 30, 1966.

† Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

TABLE 7

De novo branches of national banks opened for business, by community size and by size of bank, July 1-September 30, 1966

Category	Branches
In cities with population:	
Less than 5,000	37
5,000 to 24,999	44
25,000 to 49,999	22
50,000 to 99,999	13
100,000 to 249,999	6
250,000 to 499,999	2
500,000 to 1,000,000	1
Over 1,000,000	6
TOTAL	131
By banks with total resources: (in millions of dollars)	
Less than $ 10.0	27
10.0 to 24.9	34
25.0 to 49.9	17
50.0 to 99.9	5
100.0 to 999.9	34
Over 1,000	14
TOTAL	131

TABLE 8

Mergers,* July 1-September 30, 1966

Applications carried over from June 30, 1966	19
Applications received July 1-September 30, 1966	32
Disposition of applications: July 1-September 30, 1966	
Approved	22
Disapproved	2
Withdrawn	1
Pending September 30, 1966	26
Transactions completed—Total	21
Mergers	17
Consolidations	0
Purchase of assets	4

The aggregate totals of capital stock and capital accounts for certificates issued are as follows:

	Charter or purchasing bank	Merging, consol., or selling bank	Combined
Capital stock	$ 57,797,080	$ 5,934,610	$ 64,750,470
Capital accounts	234,379,399	18,370,342	249,375,156

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* Includes mergers, consolidations and purchase and sale transactions where the resulting bank is a national bank.

TABLE 9

Total and principal assets of national banks, by states, September 20, 1966 (Dollar amounts in millions)

	Number of banks	Total assets	Cash assets*	U. S. Government obligations, net	State and local securities, net	Other bonds, notes, net	Loans and discounts, net	Federal funds sold	Direct lease financing	Fixed assets
United States	4,808	$226,994	$36,989	$28,522	$24,170	$3,571	$123,533	$2,820	$308	$3,362
Alabama	87	2,598	461	451	312	38	1,269	6	—	42
Alaska	5	290	43	44	35	5	153	0	0	9
Arizona	4	1,756	239	169	145	21	1,115	2	1	43
Arkansas	66	1,162	220	164	145	25	574	4	—	21
California	91	29,216	4,131	2,802	3,167	486	17,026	290	117	469
Colorado	117	2,401	430	321	208	15	1,329	20	4	52
Connecticut	30	1,981	351	135	243	14	1,161	11	1	51
Delaware	5	27	3	8	—	1	13	—	0	1
District of Columbia	9	1,676	298	367	68	11	879	13	0	23
Florida	198	5,645	989	951	639	179	2,626	51	1	139
Georgia	58	3,097	611	294	276	33	1,750	29	6	61
Hawaii	2	435	58	49	42	5	260	0	1	14
Idaho	9	710	89	100	73	2	421	2	0	15
Illinois	420	19,910	3,146	2,965	2,089	445	10,450	252	47	155
Indiana	122	4,782	799	874	431	95	2,433	52	7	60
Iowa	102	1,633	328	285	149	31	792	17	1	22
Kansas	170	1,996	328	401	227	48	927	25	—	25
Kentucky	80	1,538	261	260	165	22	777	20	—	25
Louisiana	47	2,903	516	523	310	26	1,441	24	1	39
Maine	21	502	75	66	59	7	278	5	0	8
Maryland	49	2,084	364	280	169	26	1,152	53	2	24
Massachusetts	90	5,998	1,134	449	593	40	3,518	50	5	74
Michigan	98	9,134	1,382	1,385	982	130	5,026	39	10	116
Minnesota	194	4,649	832	615	472	114	2,512	4	3	64
Mississippi	36	1,089	180	166	128	13	559	5	—	25
Missouri	98	4,346	872	524	448	35	2,304	48	5	43
Montana	49	683	97	122	67	11	365	2	—	14
Nebraska	126	1,823	385	254	148	45	930	22	1	26
Nevada	3	501	63	74	57	17	262	5	—	21
New Hampshire	52	519	80	60	49	2	306	11	0	9
New Jersey	149	7,097	913	973	1,051	127	3,815	64	2	101
New Mexico	34	738	118	123	72	2	385	19	—	14
New York	192	35,450	5,998	3,037	3,574	417	20,106	734	43	404
North Carolina	28	2,099	422	179	249	48	1,120	25	—	32
North Dakota	42	594	83	119	65	15	292	2	0	12
Ohio	226	9,998	1,397	1,423	1,184	142	5,379	221	9	124
Oklahoma	220	3,356	621	578	336	78	1,615	43	3	55
Oregon	13	2,828	411	356	283	29	1,629	14	4	61
Pennsylvania	361	15,275	2,158	1,990	1,789	203	8,477	240	21	201
Rhode Island	4	839	98	58	150	8	505	5	0	10
South Carolina	26	1,067	205	154	89	19	543	29	0	22
South Dakota	34	660	94	135	56	12	346	0	0	13
Tennessee	77	3,942	775	543	397	26	2,059	12	0	57
Texas	546	14,704	2,909	1,856	1,583	292	7,388	192	1	338
Utah	13	757	116	62	119	6	425	11	2	11
Vermont	27	319	33	49	31	5	187	7	0	5
Virginia	115	3,520	484	459	370	46	2,059	20	1	62
Washington	30	3,884	620	447	396	60	2,132	97	3	68
West Virginia	80	1,089	148	277	113	19	494	13	1	19
Wisconsin	112	3,208	548	447	332	64	1,718	13	3	55
Wyoming	40	443	71	88	33	12	226	1	—	11
Virgin Islands	1	44	4	13	2	—	23	0	0	—
D.C.—all†	14	2,570	431	523	118	21	1,398	13	0	31

* Cash, balances with other banks, and cash items in process of collection.

† Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

Note: Data may not add to totals because of rounding. Dashes indicate amounts less than $500,000.

TABLE 10

Total and principal liabilities of national banks, by states, September 20, 1966 (Dollar amounts in millions)

	Total liabilities	Total deposits	Demand deposits, total	Time and savings deposits, total	Demand deposits, IPC*	Time deposits, IPC	Federal funds purchased
United States	$208,708	$196,375	$103,121	$93,253	$79,261	$82,862	$2,563
Alabama	2,380	2,308	1,401	906	1,049	865	3
Alaska	273	270	144	126	113	78	0
Arizona	1,621	1,567	699	868	561	832	6
Arkansas	1,064	1,043	651	393	484	368	1
California	27,343	25,414	10,396	15,018	8,868	13,003	333
Colorado	2,211	2,159	1,149	1,009	901	937	8
Connecticut	1,811	1,717	1,014	704	916	632	28
Delaware	24	24	11	13	11	13	0
District of Columbia	1,554	1,501	944	557	825	544	21
Florida	5,182	4,967	2,778	2,189	2,127	1,944	67
Georgia	2,842	2,663	1,717	946	1,252	850	92
Hawaii	387	373	191	182	141	149	0
Idaho	660	646	349	297	286	296	0
Illinois	18,369	17,070	9,130	7,940	6,795	7,073	382
Indiana	4,406	4,178	2,314	1,864	1,783	1,726	67
Iowa	1,503	1,459	906	554	641	532	6
Kansas	1,807	1,777	1,126	652	775	603	8
Kentucky	1,399	1,365	856	509	723	479	12
Louisiana	2,641	2,540	1,624	916	1,183	777	26
Maine	455	440	249	192	215	187	0
Maryland	1,915	1,817	1,124	693	871	664	44
Massachusetts	5,455	5,022	3,377	1,644	2,786	1,442	114
Michigan	8,556	8,183	3,451	4,732	2,725	4,142	56
Minnesota	4,288	4,068	2,188	1,879	1,492	1,781	107
Mississippi	994	926	596	329	405	315	13
Missouri	3,963	3,772	2,422	1,350	1,637	1,268	77
Montana	633	610	309	300	250	278	7
Nebraska	1,667	1,617	1,071	546	727	537	20
Nevada	461	447	229	219	176	208	0
New Hampshire	469	443	283	160	242	150	3
New Jersey	6,563	6,284	3,036	3,247	2,520	3,142	33
New Mexico	681	659	386	273	289	227	—
New York	32,316	28,685	15,037	13,647	10,542	11,197	379
North Carolina	1,937	1,840	1,084	757	866	623	18
North Dakota	553	542	265	277	223	262	1
Ohio	9,193	8,890	4,373	4,517	3,418	4,185	52
Oklahoma	3,028	2,941	1,850	1,090	1,353	1,023	38
Oregon	2,628	2,543	1,163	1,380	976	1,207	4
Pennsylvania	13,833	13,330	6,195	7,136	5,113	6,470	102
Rhode Island	782	755	285	470	231	429	6
South Carolina	982	928	739	189	608	173	4
South Dakota	612	601	307	293	243	267	1
Tennessee	3,619	3,432	2,022	1,409	1,362	1,285	54
Texas	13,435	12,768	7,693	5,075	5,712	4,229	318
Utah	698	672	281	392	229	319	9
Vermont	293	285	109	176	97	172	0
Virginia	3,217	3,104	1,539	1,565	1,296	1,489	14
Washington	3,608	3,475	1,868	1,606	1,531	1,594	15
West Virginia	981	957	526	431	387	428	—
Wisconsin	2,971	2,869	1,458	1,410	1,152	1,271	10
Wyoming	404	392	194	198	145	182	3
Virgin Islands	41	38	11	27	8	14	2
D.C.—all†	2,372	2,287	1,418	869	1,255	849	34

* IPC deposits are those of individuals, partnerships, and corporations.

† Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

Note: Data may not add to totals because of rounding. Dashes indicate amounts less than $500,000.

TABLE 11

Capital accounts of national banks, by states, September 20, 1966
(Dollar amounts in millions)

	Total capital accounts	Debentures	Preferred stock	Common stock	Surplus	Undivided profits	Reserves
United States	$18,286	$1,166	$29	$5,082	$8,155	$3,330	$525
Alabama	218	0	0	68	89	49	12
Alaska	17	—	0	5	5	6	1
Arizona	135	26	0	31	58	19	2
Arkansas	98	1	0	29	40	25	3
California	1,874	145	0	498	821	398	11
Colorado	190	4	0	61	84	41	1
Connecticut	170	11	0	45	86	27	1
Delaware	2	0	0	1	1	—	—
District of Columbia	123	0	0	35	61	26	1
Florida	463	22	0	174	189	64	14
Georgia	255	37	0	57	99	36	26
Hawaii	48	12	0	9	16	10	2
Idaho	50	0	0	17	25	7	1
Illinois	1,541	11	0	524	724	234	47
Indiana	376	13	0	91	177	86	8
Iowa	130	0	0	33	57	37	2
Kansas	189	2	0	54	82	48	2
Kentucky	139	0	0	31	73	33	3
Louisiana	262	9	3	59	143	48	1
Maine	46	0	0	18	17	10	1
Maryland	169	2	0	46	79	37	5
Massachusetts	543	10	0	147	286	96	5
Michigan	578	46	3	145	251	120	13
Minnesota	361	15	0	118	146	76	5
Mississippi	95	6	0	24	57	7	—
Missouri	383	26	0	106	156	88	6
Montana	50	1	0	17	18	12	1
Nebraska	156	3	—	42	61	46	4
Nevada	40	0	0	17	16	4	3
New Hampshire	50	—	0	10	27	11	2
New Jersey	534	27	—	150	250	96	11
New Mexico	57	0	0	19	19	11	8
New York	3,134	576	20	799	1,194	368	176
North Carolina	162	15	0	39	84	23	1
North Dakota	41	1	0	13	17	10	—
Ohio	805	27	—	225	402	148	3
Oklahoma	329	18	—	88	125	93	4
Oregon	199	0	0	71	78	43	7
Pennsylvania	1,442	32	1	302	773	269	66
Rhode Island	57	0	0	15	30	12	0
South Carolina	86	0	—	21	48	16	1
South Dakota	47	—	0	16	20	10	—
Tennessee	324	19	—	79	151	66	8
Texas	1,269	42	0	424	534	234	36
Utah	59	0	0	19	30	9	1
Vermont	26	—	1	7	10	7	1
Virginia	303	2	0	90	150	60	1
Washington	276	0	0	81	119	73	2
West Virginia	109	0	0	24	53	26	5
Wisconsin	237	2	0	78	105	44	8
Wyoming	39	1	0	6	19	11	1
Virgin Islands	2	0	0	—	1	1	—
D.C.—all*	197	13	0	48	96	40	1

* Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

Note: Data may not add to totals because of rounding. Dashes indicate amounts less than $500,000.

TABLE 12

Total and principal assets of national banks, by states, June 30, 1966 (Dollar amounts in millions)

	Number of banks	Total assets	Cash assets*	U. S. Government obligations, net	State and local securities, net	Other bonds, notes, net	Loans and discounts, net	Federal funds sold	Direct lease financing	Fixed assets
United States ..	4,811	$225,441	$36,769	$28,891	$23,975	$3,951	$123,192	$1,287	$293	$3,298
Alabama	86	2,596	455	476	309	43	1,242	11	—	40
Alaska	5	281	35	39	35	6	153	3	0	9
Arizona	4	1,769	204	153	145	65	1,095	37	1	42
Arkansas	65	1,147	219	155	143	29	567	5	—	20
California	93	28,815	4,032	2,697	3,178	571	17,113	49	114	464
Colorado	117	2,325	408	284	205	11	1,321	13	5	52
Connecticut	30	2,002	331	143	254	30	1,166	12	1	49
Delaware	5	26	3	8	—	1	12	1	0	1
District of Columbia..	8	1,452	270	335	61	8	719	26	0	22
Florida	198	5,716	1,057	1,023	604	172	2,607	39	1	137
Georgia	58	3,030	514	308	263	33	1,770	44	6	57
Hawaii	2	451	66	55	47	3	258	0	1	14
Idaho	9	701	92	98	67	2	423	—	0	14
Illinois	416	19,636	2,892	3,121	2,044	460	10,436	108	43	151
Indiana	122	4,967	884	911	420	121	2,432	98	6	59
Iowa	102	1,620	338	274	147	33	794	3	—	21
Kansas	170	1,980	320	365	224	51	934	38	—	24
Kentucky	81	1,532	264	263	165	24	773	11	—	23
Louisiana	47	2,930	534	541	313	30	1,429	12	1	38
Maine	21	481	63	63	57	7	279	1	0	8
Maryland	49	2,107	403	276	174	39	1,138	34	3	26
Massachusetts	90	5,917	1,091	492	570	44	3,498	22	5	69
Michigan	98	9,021	1,300	1,435	965	140	4,921	28	10	112
Minnesota	194	4,555	754	606	464	124	2,497	1	2	63
Mississippi	35	1,059	162	166	127	14	550	4	—	24
Missouri	98	4,233	839	524	440	40	2,269	15	4	42
Montana	49	661	87	115	64	9	365	—	—	14
Nebraska	126	1,713	331	236	146	36	920	5	1	26
Nevada	3	499	64	73	55	15	265	1	0	21
New Hampshire	51	509	79	57	46	2	306	9	0	9
New Jersey	148	7,035	930	968	1,050	120	3,782	31	2	98
New Mexico	34	715	114	126	64	2	376	16	—	14
New York	195	36,195	6,684	3,035	3,581	537	20,480	165	39	403
North Carolina	28	2,001	385	171	210	47	1,128	1	—	31
North Dakota	42	562	64	108	63	18	291	1	—	12
Ohio	226	9,752	1,374	1,527	1,130	162	5,274	84	9	121
Oklahoma	220	3,355	619	589	318	81	1,635	31	2	55
Oregon	13	2,772	389	353	272	27	1,623	0	3	60
Pennsylvania	366	15,344	2,183	2,083	2,025	203	8,311	100	21	194
Rhode Island	4	811	71	59	158	7	498	2	0	10
South Carolina	26	1,046	204	143	83	18	543	27	0	21
South Dakota	34	632	73	128	52	11	348	2	0	12
Tennessee	77	3,879	753	549	383	36	2,050	4	0	56
Texas	547	14,630	2,889	1,928	1,528	311	7,388	104	1	338
Utah	13	751	124	58	100	7	435	9	3	10
Vermont	27	306	29	47	30	5	186	3	0	5
Virginia	118	3,478	472	464	355	45	2,033	17	1	60
Washington	30	3,797	624	437	368	57	2,135	41	3	65
West Virginia	79	1,086	159	282	111	19	483	7	1	19
Wisconsin	111	3,098	468	445	329	64	1,697	14	3	54
Wyoming	40	427	64	86	30	9	225	0	—	11
Virgin Islands	1	37	2	10	2	0	23	0	0	—
D.C.—all †	15	2,542	435	534	115	20	1,359	29	0	32

* Cash, balances with other banks, and cash items in process of collection.

† Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

Note: Data may not add to totals because of rounding. Dashes indicate amounts less than $500,000.

TABLE 13
Total and principal liabilities of national banks, by states, June 30, 1966
(Dollar amounts in millions)

	Total liabilities	Total deposits	Demand deposits, total	Time and savings deposits, total	Demand deposits, IPC*	Time deposits, IPC	Federal funds purchased
United States	$207,420	$197,792	$105,990	$91,802	$76,460	$81,161	$1,557
Alabama	2,386	2,335	1,437	897	1,036	846	1
Alaska	265	260	129	131	98	78	2
Arizona	1,633	1,593	770	823	568	791	—
Arkansas	1,053	1,037	653	385	470	358	4
California	26,921	25,585	10,390	15,194	8,351	12,821	221
Colorado	2,137	2,092	1,114	978	850	905	6
Connecticut	1,835	1,761	1,086	675	907	616	—
Delaware	24	24	12	13	11	13	0
District of Columbia	1,346	1,311	828	482	708	469	7
Florida	5,262	5,095	2,955	2,140	2,178	1,840	23
Georgia	2,779	2,654	1,728	926	1,206	823	47
Hawaii	405	397	217	180	132	144	0
Idaho	651	637	352	286	261	285	3
Illinois	18,124	17,137	9,176	7,960	6,500	7,152	201
Indiana	4,601	4,394	2,557	1,837	1,741	1,697	69
Iowa	1,494	1,467	918	549	622	515	9
Kansas	1,798	1,774	1,167	607	733	571	2
Kentucky	1,396	1,377	873	505	703	473	0
Louisiana	2,673	2,621	1,725	895	1,219	757	4
Maine	436	414	227	187	198	182	—
Maryland	1,941	1,874	1,175	699	867	653	19
Massachusetts	5,381	5,072	3,502	1,570	2,628	1,387	57
Michigan	8,450	8,242	3,714	4,527	2,727	3,959	20
Minnesota	4,200	4,025	2,158	1,867	1,373	1,757	54
Mississippi	967	932	602	330	390	316	18
Missouri	3,857	3,693	2,400	1,293	1,584	1,200	52
Montana	613	596	302	294	228	273	0
Nebraska	1,561	1,537	996	541	690	531	4
Nevada	458	448	233	215	167	204	0
New Hampshire	461	435	283	152	229	138	2
New Jersey	6,513	6,276	3,132	3,144	2,439	3,040	26
New Mexico	660	643	387	256	284	218	1
New York	33,076	29,994	16,581	13,413	10,521	11,039	278
North Carolina	1,841	1,766	1,089	677	831	569	9
North Dakota	521	509	240	269	194	254	0
Ohio	8,960	8,702	4,330	4,372	3,241	4,076	24
Oklahoma	3,036	2,950	1,882	1,067	1,279	990	38
Oregon	2,574	2,490	1,130	1,359	901	1,195	11
Pennsylvania	13,922	13,412	6,356	7,056	4,966	6,405	94
Rhode Island	753	731	287	443	219	406	1
South Carolina	962	918	738	180	599	163	1
South Dakota	586	575	290	285	216	260	0
Tennessee	3,565	3,471	2,052	1,419	1,317	1,292	5
Texas	13,387	12,914	7,814	5,100	5,547	4,227	222
Utah	693	670	280	390	204	321	7
Vermont	281	275	100	174	87	171	0
Virginia	3,185	3,088	1,561	1,527	1,220	1,442	7
Washington	3,521	3,427	1,894	1,533	1,411	1,516	4
West Virginia	983	964	539	425	397	422	0
Wisconsin	2,868	2,790	1,430	1,360	1,068	1,214	2
Wyoming	389	378	188	190	134	173	4
Virgin Islands	35	33	10	23	8	13	0
D.C.—all †	2,347	2,285	1,425	860	1,241	840	10

* IPC deposits are those of individuals, partnerships, and corporations.

† Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

Note: Data may not add to totals because of rounding. Dashes indicate amounts less than $500,000.

TABLE 14
Capital accounts of national banks, by states, June 30, 1966
(Dollar amounts in millions)

	Total capital accounts	Debentures	Preferred stock	Common stock	Surplus	Undivided profits	Reserves
United States	$18,021	$1,167	$29	$5,062	$8,119	$3,128	$516
Alabama	210	0	0	66	86	47	11
Alaska	16	—	0	5	5	5	1
Arizona	136	26	0	31	58	19	3
Arkansas	94	1	0	29	40	23	2
California	1,894	145	0	500	818	419	11
Colorado	187	4	0	61	83	38	1
Connecticut	167	11	0	44	86	24	1
Delaware	2	0	0	1	1	—	—
District of Columbia	107	0	0	30	55	21	—
Florida	454	22	0	173	187	58	13
Georgia	251	37	0	56	99	33	25
Hawaii	46	12	0	9	14	10	2
Idaho	50	0	0	17	25	7	1
Illinois	1,512	11	0	521	723	211	46
Indiana	366	13	0	91	176	78	8
Iowa	126	0	0	33	57	34	2
Kansas	182	2	0	53	80	44	2
Kentucky	136	0	0	31	73	29	3
Louisiana	257	9	3	59	143	43	1
Maine	45	0	0	18	17	9	1
Maryland	166	2	0	46	79	34	5
Massachusetts	536	10	0	146	285	88	6
Michigan	571	46	4	145	251	113	13
Minnesota	355	15	0	118	146	71	5
Mississippi	92	6	0	24	57	4	—
Missouri	376	26	0	106	156	82	6
Montana	48	1	0	17	18	11	—
Nebraska	152	3	—	42	61	43	4
Nevada	41	0	0	17	16	5	3
New Hampshire	48	0	0	10	26	10	2
New Jersey	522	27	—	149	248	87	11
New Mexico	55	0	0	19	19	8	8
New York	3,119	578	20	799	1,195	354	173
North Carolina	159	15	0	39	84	20	1
North Dakota	41	1	0	13	17	10	—
Ohio	791	27	—	225	401	136	3
Oklahoma	319	18	—	88	124	85	4
Oregon	198	0	0	68	75	48	6
Pennsylvania	1,422	32	1	301	770	247	70
Rhode Island	57	0	0	15	30	12	0
South Carolina	84	0	—	20	47	15	1
South Dakota	46	—	0	16	20	10	—
Tennessee	314	19	—	79	149	59	8
Texas	1,243	41	0	423	532	212	34
Utah	58	0	0	19	30	8	1
Vermont	25	—	1	7	10	6	1
Virginia	293	2	0	89	149	52	2
Washington	276	0	0	81	119	74	2
West Virginia	103	0	0	24	53	21	5
Wisconsin	230	2	0	78	104	38	8
Wyoming	38	1	0	6	19	11	1
Virgin Islands	2	0	0	—	1	1	—
D.C.—all *	194	13	0	47	97	37	1

* Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

Note: Data may not add to totals because of rounding. Dashes indicate amounts less than $500,000.

TABLE 15
Selected loans and discounts of national banks, by states, June 30, 1966
(Dollar amounts in millions)

	Loans secured by real estate	Loans to financial institutions	Loans to purchase or carry securities	Commercial and industrial loans	Personal loans to individuals
United States	$29,214	$9,300	$3,924	$48,017	$27,794
Alabama	205	64	20	409	470
Alaska	61	—	—	56	39
Arizona	277	53	10	329	273
Arkansas	134	20	13	170	177
California	5,505	1,188	194	6,340	3,362
Colorado	275	114	26	386	351
Connecticut	359	37	8	367	357
Delaware	6	0	0	2	4
District of Columbia	236	114	7	223	132
Florida	536	143	83	919	870
Georgia	336	156	19	662	576
Hawaii	109	9	4	62	58
Idaho	141	11	6	83	111
Illinois	1,678	1,253	575	4,979	1,708
Indiana	766	155	44	658	716
Iowa	213	32	12	199	182
Kansas	135	50	11	299	229
Kentucky	208	45	8	217	239
Louisiana	231	126	48	637	358
Maine	85	11	3	87	83
Maryland	331	75	24	369	313
Massachusetts	490	298	30	1,869	783
Michigan	1,837	344	105	1,292	1,284
Minnesota	603	218	76	936	496
Mississippi	98	25	16	208	161
Missouri	443	238	51	883	546
Montana	100	4	2	85	102
Nebraska	113	34	32	245	185
Nevada	91	13	7	75	73
New Hampshire	72	11	3	109	107
New Jersey	1,593	136	46	910	1,086
New Mexico	76	10	5	119	115
New York	3,433	2,061	1,535	10,678	2,642
North Carolina	158	32	17	512	373
North Dakota	94	3	2	71	63
Ohio	1,565	301	141	1,408	1,682
Oklahoma	281	108	34	642	389
Oregon	406	120	16	658	330
Pennsylvania	2,256	495	113	3,223	1,894
Rhode Island	240	26	—	144	73
South Carolina	80	31	9	190	206
South Dakota	92	8	—	80	66
Tennessee	299	164	49	777	719
Texas	798	520	422	3,315	1,810
Utah	161	30	9	134	82
Vermont	85	—	2	36	54
Virginia	584	96	30	504	749
Washington	511	199	19	791	475
West Virginia	167	17	8	107	183
Wisconsin	588	98	29	487	408
Wyoming	60	2	2	70	49
Virgin Islands	14	—	0	6	3
D.C.—all *	413	210	25	347	345

* Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the currency.

Note: Data may not add to totals because of rounding. Dashes indicate amounts less than $500,000.

TABLE 16
Total and principal assets of national banks, by states, April 5, 1966
(Dollar amounts in millions)

	Number of banks	Total assets	Cash assets [*]	U. S. Government obligations, net	State and local securities, net	Other bonds, notes, net	Loans and discounts, net	Federal funds sold	Direct lease financing	Fixed assets
United States	4,813	$218,954	$35,919	$29,901	$23,250	$2,733	$118,262	$2,089	$276	$3,241
Alabama	86	2,535	446	460	308	32	1,218	19	—	38
Alaska	5	259	30	42	22	2	152	0	0	8
Arizona	4	1,700	206	175	142	15	1,080	16	1	38
Arkansas	65	1,136	217	166	140	21	554	13	—	19
California	93	28,267	4,242	2,905	2,747	341	16,559	434	109	460
Colorado	116	2,356	479	311	196	9	1,267	16	5	52
Connecticut	29	1,936	340	143	261	6	1,118	6	1	48
Delaware	5	27	4	8	—	1	12	—	0	1
District of Columbia	8	1,464	262	347	64	3	712	42	0	22
Florida	196	5,884	1,231	1,107	587	157	2,551	66	—	136
Georgia	58	2,914	517	306	234	40	1,677	46	4	57
Hawaii	2	413	45	57	46	—	242	2	1	13
Idaho	9	689	80	110	66	4	410	1	0	14
Illinois	416	18,922	2,859	3,018	2,081	364	9,943	126	42	149
Indiana	122	4,663	712	991	419	80	2,295	68	6	58
Iowa	102	1,652	358	291	147	33	782	11	—	20
Kansas	170	1,927	319	387	218	30	932	8	—	24
Kentucky	81	1,499	247	283	164	26	738	10	0	23
Louisiana	47	2,886	529	561	303	28	1,366	38	1	39
Maine	21	463	62	66	54	5	260	4	0	9
Maryland	50	2,046	369	307	176	29	1,110	16	3	23
Massachusetts	92	5,703	1,050	527	495	24	3,333	85	5	68
Michigan	98	8,692	1,228	1,447	951	67	4,770	34	10	108
Minnesota	194	4,493	803	657	464	95	2,367	7	2	63
Mississippi	35	1,051	188	174	126	11	518	2	—	24
Missouri	96	4,108	820	531	433	29	2,181	24	5	41
Montana	49	657	92	124	64	10	347	0	—	13
Nebraska	126	1,743	339	246	143	21	921	37	1	24
Nevada	3	495	55	74	56	17	264	6	0	19
New Hampshire	51	488	77	64	38	4	288	7	0	9
New Jersey	149	6,844	895	1,020	1,001	110	3,619	50	2	97
New Mexico	34	707	107	135	62	3	373	10	—	14
New York	198	34,225	6,049	2,975	3,614	218	19,285	406	35	403
North Carolina	29	1,923	375	176	199	37	1,081	2	—	30
North Dakota	42	571	76	117	63	16	283	1	0	12
Ohio	226	9,495	1,349	1,568	1,116	115	5,063	96	8	118
Oklahoma	221	3,293	645	597	310	66	1,581	20	2	54
Oregon	12	2,750	391	381	276	45	1,545	17	3	58
Pennsylvania	367	14,707	1,934	2,195	2,002	154	7,916	121	20	189
Rhode Island	4	807	69	68	169	3	483	—	0	9
South Carolina	25	995	190	152	78	18	524	5	0	21
South Dakota	34	635	83	137	51	11	335	0	0	12
Tennessee	76	3,752	724	567	378	27	1,972	6	0	54
Texas	546	14,521	2,908	2,004	1,504	256	7,274	109	—	333
Utah	13	738	99	63	108	3	437	12	2	10
Vermont	27	302	33	51	26	5	178	4	0	5
Virginia	120	3,410	476	506	341	47	1,929	33	1	58
Washington	30	3,598	561	442	352	30	2,064	36	3	64
West Virginia	79	1,075	164	299	107	15	463	5	1	18
Wisconsin	111	3,070	510	458	313	48	1,649	12	2	53
Wyoming	40	431	70	94	29	6	218	0	—	11
Virgin Islands	1	38	4	11	1	0	22	0	0	—
D.C.—all [†]	15	2,579	436	570	114	12	1,348	48	0	31

[*] Cash, balances with other banks, and cash items in process of collection.

[†] Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

Note: Data may not add to totals because of rounding. Dashes indicate amount less than $500,000.

TABLE 17
Total and principal liabilities of national banks, by states, April 5, 1966 (Dollar amounts in millions)

	Total liabilities	Total deposits	Demand deposits, total	Time and savings deposits, total	Demand deposits, IPC*	Time deposits, IPC	Federal funds purchased
United States	$201,117	$191,096	$101,795	$89,301	$77,512	$78,927	$2,148
Alabama	2,327	2,275	1,402	873	1,040	827	1
Alaska	243	240	122	118	97	78	—
Arizona	1,564	1,527	736	791	571	760	0
Arkansas	1,043	1,030	658	372	487	352	1
California	26,394	25,105	10,640	14,465	9,001	12,331	338
Colorado	2,172	2,096	1,166	930	913	859	23
Connecticut	1,772	1,716	1,064	652	945	583	0
Delaware	24	24	12	12	11	12	0
District of Columbia	1,358	1,315	842	473	726	456	15
Florida	5,440	5,286	3,185	2,101	2,330	1,799	30
Georgia	2,667	2,555	1,669	886	1,210	785	32
Hawaii	367	358	185	174	138	141	0
Idaho	639	623	344	279	275	278	3
Illinois	17,430	16,495	8,589	7,907	6,600	7,154	217
Indiana	4,301	4,075	2,297	1,778	1,744	1,656	97
Iowa	1,527	1,488	958	530	644	502	8
Kansas	1,748	1,703	1,112	591	748	559	9
Kentucky	1,364	1,343	855	488	711	459	2
Louisiana	2,636	2,594	1,729	865	1,227	741	4
Maine	418	401	219	182	195	177	—
Maryland	1,881	1,801	1,118	683	830	637	32
Massachusetts	5,173	4,820	3,367	1,453	2,690	1,277	105
Michigan	8,130	7,737	3,225	4,512	2,598	3,882	32
Minnesota	4,140	3,898	2,086	1,812	1,431	1,725	63
Mississippi	961	918	601	317	392	303	22
Missouri	3,735	3,578	2,332	1,246	1,601	1,153	63
Montana	610	586	300	286	239	267	8
Nebraska	1,593	1,561	1,043	518	732	509	15
Nevada	454	446	233	212	175	198	0
New Hampshire	440	423	277	146	233	130	—
New Jersey	6,328	6,072	3,007	3,065	2,510	2,962	50
New Mexico	653	635	386	249	297	218	1
New York	31,128	28,006	14,801	13,205	10,223	10,754	348
North Carolina	1,765	1,678	1,026	652	808	540	6
North Dakota	531	522	258	264	205	248	0
Ohio	8,713	8,430	4,185	4,245	3,259	3,973	51
Oklahoma	2,975	2,879	1,852	1,027	1,266	964	28
Oregon	2,555	2,487	1,106	1,381	922	1,175	5
Pennsylvania	13,296	12,764	5,928	6,836	4,907	6,201	140
Rhode Island	751	708	265	443	223	399	26
South Carolina	913	864	695	169	568	155	6
South Dakota	589	579	304	275	235	251	0
Tennessee	3,441	3,339	1,983	1,356	1,291	1,258	26
Texas	13,285	12,833	7,846	4,987	5,650	4,114	263
Utah	680	662	281	381	215	305	6
Vermont	277	271	99	172	87	169	0
Virginia	3,119	3,032	1,510	1,522	1,250	1,424	8
Washington	3,327	3,233	1,767	1,466	1,455	1,451	11
West Virginia	972	954	532	422	396	418	1
Wisconsin	2,842	2,714	1,388	1,326	1,061	1,178	52
Wyoming	393	381	196	185	143	167	2
Virgin Islands	36	35	13	22	9	13	0
D.C.—all †	2,387	2,290	1,452	838	1,287	815	46

* IPC deposits are those of individuals, partnerships, and corporations.

† Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

Note: Data may not add to totals because of rounding. Dashes indicate amounts less than $500,000.

TABLE 18

Capital accounts of national banks, by states, April 5, 1966
(Dollar amounts in millions)

	Total capital accounts	Debentures	Preferred stock	Common stock	Surplus	Undivided profits	Reserves
United States	$17,837	$1,161	$29	$5,401	$8,077	$3,019	$510
Alabama	208	0	0	66	85	45	12
Alaska	16	—	0	5	5	5	1
Arizona	136	26	0	31	58	19	2
Arkansas	93	1	0	28	39	23	3
California	1,873	145	0	500	817	400	11
Colorado	185	4	0	60	83	37	1
Connecticut	164	11	0	44	85	23	1
Delaware	2	0	0	1	1	—	—
District of Columbia	106	0	0	30	55	20	—
Florida	444	20	0	172	185	55	13
Georgia	247	37	0	56	99	30	25
Hawaii	46	12	0	9	14	10	2
Idaho	49	0	0	17	24	8	1
Illinois	1,492	11	0	520	715	198	47
Indiana	363	13	0	90	176	76	8
Iowa	125	0	0	33	56	34	2
Kansas	178	—	0	53	79	43	3
Kentucky	135	0	0	31	73	29	3
Louisiana	250	9	3	59	139	40	—
Maine	45	0	0	18	17	9	1
Maryland	165	2	0	46	79	32	5
Massachusetts	531	10	0	146	285	84	6
Michigan	562	44	4	144	249	108	13
Minnesota	353	15	0	118	146	69	5
Mississippi	90	6	0	24	57	3	—
Missouri	372	26	0	105	155	81	7
Montana	47	1	0	17	18	10	—
Nebraska	150	3	—	42	61	41	4
Nevada	40	0	0	17	16	5	3
New Hampshire	48	0	0	10	26	10	2
New Jersey	517	27	—	147	246	86	10
New Mexico	55	0	0	19	19	8	9
New York	3,097	580	20	799	1,195	337	166
North Carolina	158	15	0	38	84	19	1
North Dakota	41	1	0	13	16	9	—
Ohio	783	27	—	224	396	133	3
Oklahoma	318	88	—	18	124	84	4
Oregon	195	0	0	68	75	48	5
Pennsylvania	1,411	32	1	299	765	246	67
Rhode Island	56	0	0	15	30	11	0
South Carolina	82	0	—	20	47	14	1
South Dakota	46	—	0	16	20	10	—
Tennessee	311	19	—	78	149	57	8
Texas	1,236	41	0	422	531	207	34
Utah	58	0	0	19	30	9	1
Vermont	25	—	1	7	10	6	1
Virginia	290	2	0	89	148	50	1
Washington	271	0	0	81	119	69	2
West Virginia	103	0	0	24	53	21	5
Wisconsin	228	1	0	75	105	39	8
Wyoming	38	1	0	6	19	11	1
Virgin Islands	2	0	0	—	1	1	0
D.C.—all †	192	13	0	47	97	35	1

† Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

Note: Data may not add to totals because of rounding. Dashes indicate amounts less than $500,000.

BOOK REVIEWS

Banking Structure in Michigan 1945-1963. By Robert F. Lanzillotti, Professor of Economics, Graduate School of Business Administration, Michigan State University, 1966. Pp. 86 + appendices (pp. 73). Bureau of Business and Economic Research, Division of Research, Graduate School of Business Administration, Michigan State University. $6.50.

The purposes of this study, as stated by the author, are (1) to review changes in the structure of banking in Michigan over the first 18 postwar years, 1945-63, and (2) to evaluate the implications of change in the Michigan banking structure as its affects the credit needs of the Michigan economy. The study was commissioned by the Bank Structure Study Committee of the Michigan Bankers Association.

The body of the report is an extensive empirical account covering the decline in number of commercial banks in Michigan during the period 1945-63 and the increase in number of branch offices, a review of banking structure in nonmetropolitan areas, a comparative review of banking concentration in major metropolitan areas of Michigan, a study of chain banking and stockholder interrelationships in Michigan banks, a report of mergers, consolidations, and acquisitions among Michigan banks, and an account of the growth of commercial banks as compared to the growth of other financial institutions.

All of these data relate to characteristics of the *structure* of banking in Michigan, both its evolutionary nature and present condition, and thereby fulfill the first purpose announced by the author. However, the type of information generated by the study does not provide a basis for "evaluating the implication of change," the second purpose of the study. For the latter purpose, studies of the composition of bank loans, the terms under which credit is granted, and the recipients of bank credit would be needed. Information from the user side of the market also would be called for. The report does not direct itself to this kind of data, and hence conclusions drawn regarding the implications of change in Michigan banking structure for the operation of the banking system rest on pure theorizing, unsupported by any facts.

Major effort is devoted to comparing the degree of concentration in Michigan banking markets with that of other states, the change in concentration over time, and the variation in degree of concentration by size of market within the state. In summarizing this part of the study, it is reported on page 75 that "The relatively smaller number of different banks in standard metropolitan areas is a reflection of the trend toward increasing concentration of bank deposits in Michigan." This is hardly a startling interpretation, since as the number of firms in a market is reduced, concentration, by definition, will increase. The significance of change in the number of firms in the market was nowhere demonstrated, since no evidence was sought or presented relating change in structure to *functioning* of the banking system. The report concedes as much in stating (p. 75) that "Precisely how these trends have affected the viability and vigor of banking competition in particular banking markets is not certain." Professor Lanzillotti, however, is not discouraged by the difficulty of drawing conclusions regarding competitiveness of markets from data on the number of competitors, for in the next paragraph he observes that "More vigorous banking competition is more likely to result from new banks and *de novo* branches than from new banks or branches established through mergers and consolidations, since the number of different banks would be augmented." My own reflection is simply that concentration ratios were a wonderfully happy discovery by some statistical researcher long ago, but by itself the concentration ratio has not been successful in revealing the character or quality of competition in banking markets. And, in a negative way, this may be the most important conclusion developed by the Lanzillotti study.

In an evaluation of the adequacy of present regulation over entry into banking in

Michigan, the report notes that there has been "a net percentage increase in the number of banking offices, which is greater than that experienced by [other] limited branch banking states, unit banking states, or the U.S. average," and concludes, "The developments in bank structure indicate two things: (a) that the Financial Institutions Act has proved permissive enough, and (b) that it contains sufficient loop-holes to enable banks and branches to be established (as population, income, and concentration of economic activity would suggest are necessary to meet Michigan's banking needs.)" (See page 74.) The conclusion that the actual number of banking facilities is in some sense a correct number does not seem sustainable by the mere fact that a given percentage increase has occurred—either more or less than in other states or groups of states. That this study does not establish an unambiguous criterion for the correct number of banking offices is not surprising or especially distressing; neither has any other study to date. However, it is therefore desirable and necessary to be modest in drawing conclusions at this early stage in our studies of competition.

About halfway down a list of 17 items comprising the report's *Summary* section, the author appears to part company with the report and begins a review of other studies of bank structure, such as the Benston, Edwards and Flechsig studies. It would have been less surprising to the reader to find references to other related studies in the body of the report, where data, hypotheses, and results might have been enlightening. It is not clear whether the author imputes the conclusions of the other studies to the Michigan data; if this is the case, a more complete linkage between the conclusions of the studies cited and the data developed for the Michigan market is needed.

A minor but perhaps necessary question should be noted, concerning that portion of the summary dealing with a multiple correlation analysis relating the number of banking offices to (1) population, (2) aggregate income, (3) per capita income, and (4) geographic concentration of population and business activity. The report states that the "statewide banking structure . . . was *highly* (italics added) correlated with" all four variables (p. 78). First, it is obvious that the second variable, aggregate income, is not independent from population and per capita income, but is simply the product of these. Second, the correlation coefficient (r) for population and business activity had a value of 0.44, scarcely a "high" correlation.

My last comment pertains to the final section of the report, the conclusions. Without burdening the reader of this review needlessly, the first five conclusions are in fact a summary of certain portions of the Michigan Financial Institutions Act together with citation of certain judicial interpretations; following this, are three more conclusions relating specifically to those provisions of the Michigan Financial Institutions Act dealing with permission to establish a new bank or branch. If conclusions are presumptively related to some precedent observations, then the statements appearing under the heading "Conclusions" are improperly labeled, for this reviewer is unable to locate in the study any findings on which such conclusions might be presumed to rest.

Conclusion number 9 is directed toward limiting concentration in banking markets, especially where such concentration occurs through mergers and acquisitions. Again, there is nothing visible in the study which generates this conclusion. Conclusion 10 is a plea for preservation of small banks against the incursions of large rivals. One might observe, if he were disposed to digress, that of all the things that American banking may lack in the twentieth century, small unit banks are not one of them. However, it appears, here again, that the conclusions bear no substantial relationship to the study.

Finally, in conclusion 11, the author gets around to urging adoption of a legislative bill (Senate Bill No. 460), which was under consideration at the time this report was prepared, and which was supported by the sponsors of this study. This bill was designed to prevent an individual or group of individuals from acquiring control through stock investment of more than one bank. Whatever the merits of S. 460, the author's inclusion of an opinion unsupported by the study, as a conclusion seems clearly out of place.

After reflecting upon all of my comments, some of which are adverse, I feel that the Lanzillotti study, as a collection of empirical information, makes a substantial contribution to the literature of Michigan banking. As a reference for others wishing a compact source of data on the Michigan banking structure, it will be highly useful.

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The Commercial Paper Market, By Nevins D. Baxter. Boston: The Bankers Publishing Co., 1966. Pp. viii + 153. $10.00.

The importance of commercial paper as a source of funds for borrowers and as an outlet of funds for lenders has increased considerably in the last 15 years. Between 1951 and 1960, the volume of paper outstanding rose from approximately $1.3 billion to roughly $4.4 billion. Over the first six and one-half years of the current decade, the level of outstandings increased to more than $10 billion. Until recently, however, the development of this market received little scholarly attention, so that, as Baxter states in his preface, ". . . operations of the market are well understood only by people who concern themselves with commercial paper in their day to day business." This is the second study recently published—the other being Richard T. Selden's *Trends and Cycles in the Commercial Paper Market*, National Bureau of Economic Research, Occasional Paper 85, 1963—which describes the major participants in this market and attempts to develop hypotheses explaining their behavior.

Baxter reviews the historical development of the commercial paper market in Chapter 1, placing special emphasis on the period since 1920. Chapter 2 describes the current structure of the market and is followed by an analysis of the attitudes and behavior of paper issuers (Chapter 3), bank investors (Chapter 4), and nonbank investors (Chapter 5). Chapters 6 and 7 consider the absence of a secondary market for commercial paper and whether the commercial paper market "drys up" in periods of monetary restraint at year end. Chapter 8 summarizes the conclusions of earlier chapters.

Most of the discussion, with the exception of Chapter 1, is based on interviews with a cross section of market participants and questionnaires sent to a large sample of commercial paper issuers and investors. (The sample of issuers included the 18 finance companies which issue their paper directly as well as 82 firms which issue through dealers. The sample of investors included 200 corporations and 521 banks. More than 80 percent of both issuers and investors responded to the questionnaire.)

The questionnaire survey technique has complemented analyses using other data sources by checking the validity of assumptions about the attitudes and behavior of market participants and by suggesting new hypotheses or reformulations of existing ones. However, these surveys are notably treacherous as tools of economic analysis. It is my opinion that Baxter was successful, for the most part, in avoiding pitfalls. I say for the most part because in some areas he could have improved the interpretive value of his data by examining more thoroughly the quantitative importance of differing answers to some of his questions.

For example, in attempting to determine whether the market for commercial paper actually "drys up" in periods of tight money, Baxter asked his sample of corporate and bank investors to trace their holdings of commercial paper during periods of tight money. Of the corporations responding to this question, 9 percent indicated that they increased their holdings while 19 percent stated that holdings declined. Another 45 percent said that holdings did not change. The distribution of bank responses to this question indicated that 56 percent decreased their holdings, 5 percent increased their holdings, and 30 percent left them unchanged. Baxter interprets these results as evidence of some withdrawal of corporate and bank investors from the market. Yet, such an interpretation is not valid unless respondents are weighted according to their importance in the market. Selden's evidence indicated that total paper outstanding, after declining in the early part of an expansion, increases moderately throughout the remaining period of this phase of the cycle, a period most closely associated with tight monetary conditions. If Selden is correct, someone must be acquiring this higher level of outstanding issues.

I was somewhat disappointed that Baxter did not integrate his discussion and findings more extensively with Selden's earlier study, particularly because they are so closely related. For example, Baxter concludes, as did Selden, that issuers of commercial paper are sensitive to the cost differential between borrowing at banks and in the market. In addition, his findings tend to support Selden's conclusion that investors view commercial paper as a close substitute for Treasury bills, so that changes in the differential between yields on Treasury bills and paper lead to substantial switches in investment portfolios.

Baxter differs with Selden on the degree of emphasis attributed to relative cost-sensitivity of paper issuers. The idea of a market "dry-up" is introduced as a partial explanation for the decline in importance of commercial paper relative to bank debt during periods of tight money. This conclusion is based on the following evidence:

1. Correlation coefficients of .71 and .63, respectively, were obtained when the difference between bank prime rate and the commercial paper rate was correlated, first, with the ratio of total commercial paper outstanding to total paper outstanding plus bank loans and, second, with the ratio of directly placed commercial paper outstanding to directly placed commercial paper outstanding plus bank loans. Baxter interpreted the magnitude of these coefficients as not being very high.
2. A high correlation was found between tight money conditions—free reserve levels were used as an indicator—and the bank prime rate-commercial paper rate difference. This was interpreted as suggesting that the decline in importance of commercial paper relative to bank loans, when the prime rate-paper rate difference narrows, may be partly the result of an inability to issue paper in times of monetary tightness.
3. Responses to questionnaires by both issuers and investors indicated the possible existence of the "dry-up" phenomenon.

While this evidence provides support for the assertion of a market "dry-up," it is certainly not compelling. Indeed, Baxter offered alternative explanations for the decline in relative importance of commercial paper during tight credit conditions. He noted that borrowers are generally unwilling to issue paper at rates above the bank prime rate. In addition, the spread between rates on Treasury bills and commercial paper did not appear to vary systematically with credit conditions. These two facts suggest that borrowers can increase their paper outstanding if they are willing to pay a higher price and make their paper more attractive to investors. Moreover, as indicated earlier, the evidence based upon questionnaire responses is to some extent ambiguous.

This book supplies independent evidence to support some of Selden's earlier conclusions based on a different type of data. Baxter's new insights also provide a background for the construction of more sophisticated models, which is one of his principal objectives.

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* * *

Analytical Methods in Banking, by Kalman J. Cohen and Frederick S. Hammer. Irwin, 1966. Pp. ix + 598. $12.00.

The editors of this collection of articles had in mind three purposes: to accelerate the rate at which appreciation and understanding of analytical methods is achieved by bankers and students of banking; to fulfill the authors' hope that a growing number of banks will apply these techniques; and, finally, to stimulate the further development of new analytical tools applicable to banking. To achieve these purposes, they have presented 23 articles divided into six parts. Most of the articles originally appeared elsewhere, but some were prepared especially for this collection. Virtually all of the articles are expositions of mathematical and statistical techniques and analyses applied to problems faced by commercial banks.

The book is divided as follows:

Part I presents a single introductory article, by the editor, developing basic concepts and approaches of operations research.

Part II includes four articles on asset management. The first, by DeLong, relates asset investment to the liquidity requirements characteristic of the bank's capital structure, including demand deposits. An article, by Waterman and Lee, consists of a single period linear programming model aimed at optimal allocation of assets subject to the constraints set by bank policies and regulatory authorities. Linear programming in a more sophisticated version, capable of being applied over time, is again used for optimal asset allocation in the third article, by Chambers and Charas. The final article in the section, by Davis, is an abridgement of the player's manual for a computer-oriented bank management game.

Part III consists of five articles concerned with the lending and credit functions of banks. Myers and Forgy present the development of a numerical scoring system based on borrower's characteristics, which permits a prediction of the probability that a retail credit borrower will default. Using different techniques but a similar approach, Smith develops a risk index for installment credit. Mitchner and Peterson develop a model which determines the optimal length of time for defaulted consumer loan collection efforts, by comparing the cost of the effort with the expected value of collections. The relationship between the terms offered by a bank on a commercial loan and the characteristics of the borrower, are described in an econometric model by Hester. Finally, Cohen, Gilmore, and Singer speculate on the use of a computer to replace commercial loan officers in the analysis of business loan applications.

Part VI contains five articles dealing with the trust function of commercial banks. The first article is the classic by Markowitz dealing with portfolio risk by using quadratic programming and the analysis of the covariances and variances of security investments. Sharp's diagonal model, a simplification of Markowitz's analysis of portfolios, is the second article in the section. Whereas the first two articles deal with risk management at a technical level, the third article, by Ahlers, is an attempt to develop a formula approach to forecast the performance of individual securities. The usual earnings and dividends variables are combined in a regression analysis. The next selection is Clarkson's well-known heuristic model of trust investment behavior, which attempts to duplicate the decision process of a trust officer by explicitly considering the goals and constraints confronting him. The final article, by Treynor, attempts to rate the management of investment funds, using risk and return for the fund, relative to the market, as the basis for ranking.

Part V discusses problems related to the bond department. The first article, by Pao Lun Cheng, illustrates how Markowitz's portfolio analysis may be applied to long-term debt investment selection. The editors coauthor the next article, which develops a special computational algorithm to solve the linear programming problem of determining the best coupon schedule on municipal bonds to be offered by the underwriting syndicate. The third article, by Fisher, consists of a regression analysis used to estimate the determinants of risk premiums on corporate bonds. Finally, Kessel's theoretical and empirical analysis of the term structure of interest rates is presented.

Part VI is essentially a miscellaneous section. A simulation model to explain time variations in corporate demand deposit holdings has been developed, especially for this volume, by Coane. Byerly explains how Monte Carlo simulation techniques can be used in the waiting line problem posed by teller window operations. Benston uses regression analysis to estimate the economies of scale and marginal costs in banking. The final article is by Hertz, and describes a simulation technique which can be used to estimate the distribution of possible rates of of return on a capital investment, where the distribution can then be used as a risk estimate.

Although the quality of the articles vary, the book is more than the sum of the parts, primarily because Cohen and Hammer, unlike most editors, have added careful introductions and postscripts to each of the articles. These evaluate the articles, as well as explain the relevance of each article to the general problem. Because the quality of the commentary is frequently so superior, the book's usefulness is enormously magnified.

It is almost inevitable, and certainly appropriate, to compare this collection with a similar collection of mathematical applications to industry made by Bowman and Fetter (*Analyses of Industrial Operations*, Irwin, 1959). Virtually all of the older Bowman and Fetter collection described approaches actually used in some business firms. Often, data were presented to show cost reduction or other kinds of explicit benefits accruing from the use of these exotic techniques. Such convincing information appears only rarely in the Cohen-Hammer collection. Indeed, many of the articles will serve to confirm the practical banker's suspicions about the value of abstract analysis to his business. A number of the approaches are, as the editors clearly state, nonoperational, that is, have never effectively been used to solve a bank problem.

Yet, the fault is not Cohen and Hammer's. Although some articles might have been omitted, the authors neglected to include a few articles which might have strengthened the collection. To obtain convincing articles on the applicability of analytic techniques to banking, we must have bank applications of the techniques. To encourage banks to apply the techniques, the bankers must be convinced.

The collection will probably be extensively used as supplementary reading for courses in bank management or management of financial institutions. With careful selection, the instructor should find these readings very useful and an aid in moving course content from pure description to analysis.

The quality and perception displayed in Cohen and Hammers' commentaries makes one hope that they will write a complete book on bank management.

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Cycles in Government Securities: Determinants of Changes in Ownership. By Michael E. Levy, New York, N.Y. The National Industrial Conference Board, Inc., 1965. Pp. 263. $20 to the general public; $4 to associates and government agencies; $1.35 to students and teachers.

Within the relatively small compass of some 200 pages of text, this follow-up study to *Cycles in Government Securities: Federal Debt and its Ownership* (published in 1962) sets forth the identifiable determinants of changes in holdings of government securities for investor-groups identified in the Treasury's Ownership survey. At the outset, it must be stated that the Treasury's ownership data represent a significant limitation to Levy's analysis which, nevertheless, bravely separates ownership groups into "cyclical" and "trend-dominated." The book provides summaries of available studies concerning ownership behavior, and supplements them with later data and new analysis. Finally, it suggests possibilities for improvement of available ownership data, notably for such rapidly growing holders as pension and welfare funds, and foreign holders.

The major part of the book is devoted to a discussion of "cyclical ownership" groups. These are, according to Levy, the commercial banks, nonfinancial corporations, and government securities dealers. This discussion would make a good introduction for any student of financial markets generally, and of the money market. Unfortunately, however, the book has been overtaken by events. To begin with, the volume of government securities in the hands of the public has been growing rather slowly, while other forms of long-term debt and money market paper have grown more rapidly. In the past 10 years (1955-1965), for example, holdings of short and long-term government securities have risen by just $14 billion, or by about the equivalent of *one* average year's growth of new mortgages, or of about three-years' growth of certificates of deposits in the sixties. Many "cyclical" ownership groups thus may now be experiencing cycles in holdings of *nongovernment* securities rather than of governments.

Seen in this context, the analysis of demand for government securities by commercial banks probably can no longer be viewed, as this book does, as the sole "residual" demand following profit maximization from bank loans. For the period of the fifties, when bank investments in nongovernments (primarily state and local issues) were one-third of governments, such an approach could be used. But when one looks again at nongovernment holdings in mid-1966, they are at near-parity with holdings of governments. For the larger banks, indeed, there is now a parity in holdings of *tax-exempts alone* with government securities. Further, the aggressive seeking out of new sources of liquidity by banks in the mid-sixties through shifts in *liabilities*, rather than in assets, also has tended to cut the demand for secondary liquidity embodied in bank holdings of governments. And, finally, these changes in bank portfolio management on the assets and liabilities sides have been followed by changes in Federal Reserve policy tools, such as the use of Regulation Q and marginal changes in reserve requirements. It would appear that the "banking revolution" of the sixties may be introducing a downward *trend* in bank holdings of governments.

In his study of cycles in corporate holdings, Levy presents a nice summary of available studies, although this reviewer is skeptical of his near-passion for seasonally adjusting as many sets of data as possible. But here again, the pace of change in the financial markets has tended to reduce the usefulness of studies of corporate holdings of governments alone. For the corporate sector has become a prime supplier of liquidity *to the banks* through the acquisition of some $18 billion of certificates of deposit in the period 1961-1966. By "lending" short-term funds to the banks rather than to the Government, the near-money holdings of corporations must now be reviewed in a new light.

Unfortunately, however, there is, as yet, no survey of ownership of certificates of deposit—and of other privately-issued money market paper—held by major corporations. One may suggest, therefore, that studies of corporate liquidity in the form of governments alone represent no more than partial coverage—and analysis—of the problem; new data on ownership of C.D.'s and finance-company paper are required. For nonfinancial corporations, and for commercial banks as well, cycles in total short-term asset holdings undoubtedly continue. For these holders, however, the growing importance of substitutes for holdings of government securities probably has changed both the importance as well as the character of cycles in holdings of these government securities.

Some reduction in the amplitude of cycles in government securities holdings was noted by Levy for his third "cyclical" ownership group, namely, the government securities dealers. The earlier cyclical fluctuations of the dealers' holdings had been interpreted as moving "more or less *inversely* with cyclical fluctuations in corporate holdings" (p. 111). By the same reasoning, a damping of corporate variations in such holdings would tend to reduce cyclical variations in dealer holdings as well. It is also possible that, when a higher recession-floor was placed under interest rates (for balance-of-payments reasons) in the sixties, the interest-rate responsiveness of dealer holdings (noted by Levy) also was reduced. To some extent for dealers, and even more for other holders, portfolio changes in government securities may today be poor proxies for changes in the (presently unknown) volume of cyclically-sensitive holdings of total liquid assets. As a result, "cyclical ownership groups," as presently identified, may in the future undergo lesser (or greater) cycles in government securities than heretofore.

Moving on to the "trend-dominated" groups (savings-type institutions, insurance companies and pension plans, as well as state and local holdings, and foreign accounts), Levy finds a general upward trend from the late fifties. As noted, the analysis of holdings of government securities necessarily is limited by the availability of data, whether "trend-dominated" or "cyclical" groups are analyzed. The plain fact is that, in spite of Levy's ingenious attempts to disaggregate available data, we still lack fundamental information concerning ownership changes of major financial asset holdings. If, and when, such ownership data are gathered, it is hoped that another even more useful volume in the series will emerge from Levy's pen.

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Balance of Payments Equilibrium: A Theoretical and Empirical Study. By Hourmouzis G. Georgiadis. Pittsburgh: University of Pittsburgh Press, 1964. Pp. ix + 220. $7.00.

Georgiadis' main point of departure is to criticize the balance-of-payments equilibrium concepts which have become part of the "post-Keynesian consensus" owing to the influence especially of the well-known contributions of Ragnar Nurkse and James Meade.[1] Nurkse is criticized on the ground that his model of balance-of-payments equilibrium specified too few conditions to permit a general equilibrium solution for external balance, and Meade because his model was of "limited empirical use."

To illustrate his contentions, Georgiadis develops a 20-equation, Keynes-like, open economy model for two countries, treating the rest of the world as the second country. The microeconomic foundations of this model are presented separately in an appendix. He then proceeds to use the model to examine the Nurkse-Meade external equilibrium conditions which are as follows (pp. 46-47):

> (a) No short-term capital movements treated as balancing items resulting either from government manipulation of interest rates or/and from considerations giving rise to "hot money;" (b) no monetary gold stock movements; (c) no alteration of the exchange rate; (d) no alteration of any import barriers or exchange restrictions; (e) no mass unemployment owing to the implementation of countercyclical policies on the part of governments; and (f) the time specification of the equilibrium conditions is taken to be the full cycle in each country separately.

He shows, first, that external equilibrium can exist only if the timing of the business cycles in the two countries is either coincident or offsetting. Thus, if there are variations in the timing of cycles and consequent external disequilibrium, exchange rate variation will not suffice to remove the disequilibrium. Second, he argues, unconvincingly, that full employment and external equilibrium cannot be achieved simultaneously, because in an economy with a growing labor force there must be a continuous increase in government expenditures to maintain aggregate demand. This will, in turn, lead to inflationary wage and price increases and balance-of-payments difficulties, because of the "permanent full employment" psychology that will characterize the collective bargaining process. The argument is unconvincing because Georgiadis has constructed his model in such a way as to rule out the capacity-increasing effects of employing a growing labor force. It is not a legitimate procedure, moreover, to introduce an empirical hypothesis about collective bargaining into the model in order to support a particular conclusion.

Georgiadis' third contention is that there is no basis for holding the exchange rate and restrictions on trade and payments constant while permitting countercyclical policies to vary for purposes of attaining equilibrium. His point is that exchange rate variations have been precluded because of unfounded fears of retaliation by other countries, and that restrictions have been ruled out because they are presumptively damaging to economic welfare. Granting the foregoing, the argument is that the pursuit of internal and external balance must be seen in a general equilibrium context in which the exchange rate and the level of restrictions can be taken as instrumental variables along with countercyclical policies. Georgiadis is raising some important issues here. But, unfortunately, his discussion is beclouded by treating these issues within the framework of his model.[2] He attempts to demonstrate, for example, that the use of alternative policy instruments to attain some given target will have the same impact on all the other variables in the system. This is difficult to accept, however, for surely different instruments can affect some sectors more than others, and the choice of instruments is hardly neutral from the welfare point of view.

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[1] Ragnar Nurkse, "Conditions of International Monetary Equilibrium," reprinted in American Economic Association, *Readings in the Theory of International Trade*, Philadelphia: Blakiston, 1949; and James E. Meade, *The Balance of Payments*, London: Oxford University Press, 1951.

[2] He makes no reference, furthermore, to important recent developments in the theory of economic policy, such as are contained in the article by Robert A. Mundell, "The Appropriate Use of Monetary and Fiscal Policy for Internal and External Stability," IMF *Staff Papers*, March 1962. The point of Mundell's article and later work along these lines, is that countercyclical policies can be designed to achieve both

Having examined the condition of balance-of-payments equilibrium by means of his theoretical, Keynes-like model, Georgiadis proceeds to his empirical inquiry, which is designed to shed light on the "actual equilibrium or disequilibrium significance" of particular variables. However, rather than estimating a Keynes-like model which would be highly aggregated, multivariate, and simultaneous in nature, he chooses instead to estimate a model which is highly disaggregated, bivariate, and does not readily permit full solution. He offers the following rather puzzling justification for this approach (pp. 73-74, footnote 16):

> A system of equations each consisting of two variables will tend to explain more of the relationships of an economic system the more the productive process described by such a system can be differentiated into its simpler determining elements. . . . As we move from the laboratory-economy—the economy of simplified assumptions—to the economies of the real world, the only thing we can still say is that a two variable equation system can only hold statistically for an economy in which the rates of change are defined over time within narrow limits.

With the foregoing rationale, Georgiadis constructed a model of the U.S. economy with eight sectors and with nearly 300 equations, each containing two variables. The form and level of disaggregation were determined mainly by the classifications employed in the Flow of Funds publications of the Federal Reserve System. The period 1945-56 was chosen in order to eliminate the unrepresentative war and early postwar years, and because of the lack of comparable data after 1956. However, the foreign sector of the model was re-estimated for 1949-60 in a separate appendix. The model is, unfortunately, extremely difficult to follow. For example, Georgiadis used about 15 pages to list all the code numbers and variables of the model, and another 75 pages to list the results. The discussion was presented mainly in symbolic form with equation number references. The second half of the book is, as a consequence, practically unreadable.

Each equation was specified with the source of funds as the independent variable and the use of funds as the dependent variable. All relationships were estimated with a *minimum* of six to eight alternative forms, and the one was chosen that had the highest simple correlation coefficient. This procedure was apparently adhered to faithfully, since there is no indication that consideration was given to the influence of common trends in the series correlated, problems of simultaneity, or the fact that some of the results bordered on identities and others made little or no sense economically.

With such a highly disaggregated model, Georgiadis was left with only a small number of exogenous variables. In order to get around this, he disregarded the relationships involving government expenditures and, instead, treated them as exogenous. He was thus led to an illustrative conclusion similar to the (questionable) one reached in his theoretical model. Unfortunately, Georgiadis neither presents nor solves his model in a way which permits the effects of different policy measures to be assessed. All he tells us in a hardly startling conclusion (p. 167) is that "the balance-of-payments is in equilibrium if, and only if, each sector is in equilibrium." Surely, we deserve a more convincing demonstration than this if we are to believe the claims made (pp. 168-169) on behalf of this unconventional approach. I would prefer the more conventional, multivariate econometric approach.

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internal and external balance. Thus, while Georgiadis' focus on the Nurkse-Meade conditions has its merits, it must be noted that recent theoretical discussions have placed the fulfillment of these conditions in a somewhat different light.